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ABSTRACT

This document contains six papers on vocational education. "Blurring the Boundaries: The Emergence of the New Vocational Student" (Mario Delci) documents the benefits of combining an academic curriculum with vocational coursework. "Observable Teaching Effectiveness and Personality Types of Selected Beginning Career and Technical Education Teachers" (Howard R.D. Gordon) explores the relationship between personality types and the teaching effectiveness of 34 beginning secondary industrial and health occupations teachers. "Effect of School Size and Leadership on School-to-Work Programming" (William J. Stull, Judith C. Stull, and Nicholas Sanders) analyzes how schools across the United States have responded to the call for school-to-work programming. "School and Workplace Initiatives and Other Factors That Assist and Support the Successful School-to-Work Transition of Minority Youth" (Rose Mary Wentling and Consuelo Waight) examines specific activities, programs, policies, and other formal and informal efforts designed to facilitate minority youths' transition into the workplace. "Externally Driven Innovations in the Vocational Education and Training Sector: Issues Associated with Staff Development" (Tom Lowrie) studies staff development efforts to ensure that competency-based training boosts vocational education and training outcomes in Australia. "Developing Technical Education Curricula in Australia and the United States: A Cross-National Comparison" (Curtis Finch and Rod Francis) compares curriculum development and delivery in Australia and the United States. (Most papers contain references.) (MN)

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2000
Proceedings

American Educational Research Association

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2000 Annual Meeting
New Orleans, Louisiana
April 24-28, 2000

Allen D. Truell
SIG Program Chair and Proceedings Editor
University of Missouri-Columbia

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NOTE FROM SIG PROGRAM CHAIR

The 2000 American Educational Research Association (AERA) annual meeting was held in New Orleans, Louisiana, April 24-29, 2000. The theme for the AERA conference was "Creating Knowledge in the 21st Century: Insights from Multiple Perspectives." The Vocational Education Special Interest Group (SIG) had two paper presentation sessions, two roundtable sessions, and a business meeting during the AERA annual meeting.

Each paper presented during the Vocational Education SIG sessions was selected through a blind, peer refereed process. Each paper proposal submitted was read by three reviewers.

Inclusion of the papers in the Conference Proceedings does not preclude the submission of the papers to any refereed journals.

A copy of the SIG program agenda is provided on the following pages. The papers included in the Proceedings were submitted within the designated time frame provided to each of the presenters.

Allen D. Truell
Vocational Education SIG
Program Chair and Proceedings Editor

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VOCATIONAL EDUCATION SIG PROGRAM

2000 AERA ANNUAL MEETING
NEW ORLEANS, LOUISIANA
APRIL 24-28, 2000

Monday, April 24, 2000

Session Title:	Vocational Education SIG Business Meeting
Session Number:	7.13
Location:	Sheraton, Ellendale 4th Floor
Time:	6:15 p.m. - 7:45 p.m.
President:	William G. Camp, Virginia Tech
Program Chair:	Allen D. Truell, University of Missouri-Columbia
Secretary:	Howard Gordon, Marshall University

Tuesday, April 25, 2000

Session Title:	International Perspectives on Vocational Education
Session Number:	14.34
Location:	Marriott, Carondelet 3rd Floor
Time:	12:25 p.m. - 1:05 p.m.
Participants:	*Modern Modeling of Student Motivation and Self-Regulated Learning.* Pekka Ruohotie, University of Tampere Juhani Kulmala, University of Tampere
	Main Thing is to Get a Job at all---Qualitative Interviews on Work Attitudes of Berlin Youth Dagmar Bergs-Winkels, Free University of Berlin
	Work Values in Times of Social Chang.e Gabriele Classen, Westfalische Wilhems University
	Narrow Versus Broad: Which Learning Path Provides the Best School-to-Work Transition in Nursing and Healthcare? Esther van der Schoot, University of Twente

Wednesday, April 26, 2000

Session Title:	School-to-Work and Postsecondary Issues in Vocational Education
Session Number:	27.18

Location:	Sheraton, Evergreen 4th Floor
Time:	2:15 p.m. - 3:45 p.m.
Chair:	Betty Heath-Camp, Virginia Tech
Participants:	*Effects of School Size and Academic Climate on School-to-Work Programming.* William Stull, Temple University Judith Stull, Temple University Nicholas Sanders, Temple University
	School and Workplace Initiatives and Other Factors that Assist and Support the Successful School-to-Work of Minority Youth. Rose Mary Wentling, University of Illinois--Urbana-Champaign
	A Benchmark Review of Postsecondary Technical Students in Pennsylvania. Edgar Farmer, Penn State University Henry O'Lawrence, Penn State University Jerome Kapes, Penn State University
	Private Support of Post-Secondary Public Vocational-Technical Institutes. John Enger, Arkansas State University

Thursday, April 27, 2000

Session Title:	New Developments in Vocational Education
Session Number:	39.40
Location:	Marriott, Carondelet 3rd Floor
Time:	4:05 p.m. - 4:45 p.m.
Participants:	*Factors Contributing to Teachers' Professional Growth and Development.* Pekka Ruohotie, University of Tampere Juhani Kulmala, University of Tampere
	Adaptions and Modifications Used by Vocational Educators When Working With Students With Special Needs. Cheryl Evanciew, Oklahoma State University
	Experiential Learning and Instructional Techniques: Perceived Benefits of a College of Agriculture Capstone Course. Randall Andreasen, Southwest Missouri State University

Teacher Background to Problem Solving in a Tech Prep Applied Communications Course.
Bob R. Stewart, University of Missouri-Columbia
Don Gelven, Linn State Technical College

Friday, April 28, 2000

Session Title:	Developing Trends in Vocational Education
Session Number:	47.27
Location:	Le Meridien, Conde 3rd Floor
Time:	12:25 p.m. - 1:55 p.m.
Chair:	Allen D. Truell, University of Missouri-Columbia
Participants:	*Developing Technical Education Curricula in Australia and the United States: A Cross-National Comparison.* Curtis Finch, Virginia Tech Rod Francis, Charles Sturt University
	Externally-Driven Innovations in Vocational Education and Training Sector: Issues Associated with Staff. Tom Lowrie, Charles Sturt University
	Observable Teaching Effectiveness and Personality Types of Beginning Technical Education Teachers. Howard Gordon, Marshall University
	Blurring the Boundaries: The Emergence of the New Vocational Student. Mario Delci, UC-Berkeley

Papers Presented

BLURRING THE BOUNDARIES: THE EMERGENCE OF THE NEW VOCATIONAL STUDENT[1]

Mario Delci
Graduate Student
University of California, Berkeley

Introduction

Congress, in the 1990 renewal of the Carl D. Perkins Vocational and Applied Technology Education Act, required all federally funded vocational education programs to "integrate academic and vocational education in such programs through coherent sequences of courses so that students achieve both academic and occupational competencies" (Section 235). Congress reiterated its support for this requirement in the 1998 renewal of the same act. In 1990, Congress also approved funding for Tech Prep programs, which consist of academic and vocational course sequences linking secondary and postsecondary institutions. The years since 1990 have seen a rise in new vocational programs such as Tech Prep and career majors (Visher et. al. 1999). Vocational policy makers and practitioners are increasingly committing resources to ensuring that vocational students have the opportunity to complete the basic requirements for postsecondary education. Like any other reform, it is important to evaluate the potential effects of combining academic and vocational coursework on important educational and labor market outcomes. This paper provides some insight into the latter by analyzing differences between students following different courses of study in high school. Though studying students currently in high school does not allow for the examination of outcomes, information on schooling behavior and characteristics can provide some idea of what to expect as students graduate and move into the labor market and/or postsecondary education.

Existing research reveals potential benefits to completing a combined course of study as opposed to a vocational-only or general program. Kang and Bishop (1989) were the first to note this when their study found a positive interaction between the number of academic and the number of vocational courses in regards to the earnings after high school of students who did not attend college. Specifically, students taking four units of vocational courses and eight units of academic courses in the last three years of high school earned more right after high school than students taking twelve units of academic

[1] This work was funded by a grant from Office of Adult and Vocational Education through the National Center for Research in Vocational Education.
I am grateful to David Stern for his guidance throughout this research project and for co-authoring the technical report (see Delci and Stern, 1999). I am grateful for the statistical advice provided by Steven Pedlow of the National Opinion Research Center and by Susanne Graham of Harvard University. I am grateful to Jin Kwon Doug Lauen, Sally Librera, and Elliott Medrich of MPR Associates for consultation and their assistance with the technical report. I am responsible for any errors of fact or interpretation.

courses. In addition, they found that the return to vocational classes declined beyond four units. In their analysis, Arum and Shavit (1995) identified students who had taken a set of advanced academic courses, a sequence of vocational courses, or both. Four years after senior year, individuals who had completed both advanced academic and vocational courses in high school had the greatest likelihood of being employed in professional, managerial, or skilled jobs, or being enrolled in postsecondary education. Outcomes for this group were better, or at least as good, as those who had taken advanced academic courses but no vocational education. Levesque and others (1999) found support for the findings of Arum and Shavit and found that students who combined a college-preparatory academic curriculum with a specific vocational sequence had gains in math, reading, and science test scores during high school that were similar to the gains of students who took only the college-prep curriculum. In addition to research on completing a combined course of study, there is a growing body of research showing positive outcomes of programs like career academies that require a sequence of vocational and academic coursework (see Stern, 1999 for a review).

That combining an academic curriculum with a sequence of vocational coursework has positive payoffs is not surprising. Academic coursework has a positive impact on college attendance and in a review of the literature Gamoran reported that academic coursework had positive labor market outcomes for youth who did not attend college (1998). In addition, Bishop (1989) found that students who completed a coherent sequence of vocational courses and did not go to college earned higher wages and enjoyed more stable employment than other students who did not go to college when they found jobs relevant to their vocational classes (see also Stern and others 1995, Arum and Shavit 1995). Putting the two together - academic coursework and a sequence of vocational coursework- would seem to be a good idea.

These findings are encouraging for the Perkins reforms. Vocational education has had a mixed record at best over the last several decades. For years, it has been dismissed by the mainstream as the place for underachieving, low-aspiring students. Studies from as early as 1922 (Counts), and as late as 1995 (Levesque et. al.) have reported that disadvantaged, low-achieving students were more likely to participate in vocational programs than their more advantaged peers were. Other research has shown that vocational programs, teachers, and students are marginal to the mainstream academic life of secondary schooling (Little and Threatt, 1992; Eckert, 1989). It is also known that minorities are more likely to participate in vocational and technical programs than non-minorities (Rivera-Batiz, 1998; Levesque et. al. 1995). The inclusion of academic requirements in vocational programs is in part a response to the charge that vocational education serves as a dead-end to disadvantaged students.

It is too early to tell if students combine academic and vocational coursework on their own or in response to program requirements. In fact, the practice of combining academic and vocational coursework has increased (Levesque et. al 1999) at the same time that overarching curricular tracking has declined (Lucas, 1999). That is, as students were given more freedom in choosing their own classes more students chose to combine academic and vocational coursework. Also, during this same time the number of students completing a vocational course of study declined (Levesque et. al 1995). It is not possible to determine why students follow a combined course of study as opposed to an academic

or vocational course of study, though qualitative research suggests that students see the potential for both academic and vocational returns to such a program (Heebner, 1995). However, it is possible to explore who participates in a combined program of study. This is an important question because of vocational education's clouded past and the history of tracking in the United States. If there are positive returns to a combined course of study then it is important to know who is likely to benefit from this practice. Who participates in a combined course of study is the subject of the research reported here.

Purpose/Objective

Combining or integrating academic and vocational coursework is not a new idea. In fact it stretches back to at least Dewey who argued against the futility and danger of creating an artificial divide between the academic and the vocational (1915, 1913). One of Dewey's concerns was that by labeling a student academic or vocational you were conferring on them their future role in the labor market. In the spirit of Dewey, some have recently articulated a new vocationalism, a major tenet being the integration of academic and vocational coursework (Benson, 1992; Grubb, 1996). Charles Benson, in a paper delivered in 1992 and published posthumously in 1997, articulated some of the objectives of the new vocationalism:

> The first is to enable almost all students, not just the minority, to obtain a thorough working knowledge of maths, sciences, and languages. That is, the first objective of the new vocationalism is to help many, many more students obtain a much higher standard of academic proficiency. The second objective, more obviously, is to help many, many more students gain such a level of occupational proficiency that they enter easily and quickly upon productive, rewarding and interesting careers... (p. 201)

The first objective guides the data analysis for this project. Vocational students following a combined course of study should take more academic core classes than they have traditionally and overall the demographic make-up and school characteristics of the vocational population should differ less sharply from the general population of the high school as more vocational students complete a combined course of study.

The main purpose of this project is to determine whether students pursuing a combined course of study represent a broader cross-section of students than those participating in traditional vocational education do. Research cannot establish causality between national reforms and student participation patterns. However, research can examine patterns of participation and examine the vocational population for emerging distinctions between students.

Procedures/Methods

I use data from the National Longitudinal Survey of Youth 1997 (NLSY97) to investigate differences in demographics and schooling characteristics between students participating

in four different courses of study: academic/college prep, general, vocational/technical, and vocational and academic combined. Students in the latter group are referred to as "combined" throughout the analysis. The NLSY97 is a large-scale, survey launched by the Bureau of Labor Statistics in 1997. The sample is of all youth born between January 1, 1980 and December 31, 1984. Of the 10,000 youth sampled, 9,022 were surveyed during 1997. Sampling was conducted over two stages, a cross sectional sample and an oversample of minority youth. Data was collected on each eligible youth in the household, the parent/guardian who participated in the survey, as well as any additional parents, regardless of whether they lived in the household or not. For more information about the sampling methods and sampling weights, see Center for Human Resource Research (1998).

The analytic sample consists of 4,254 youths in 9th, 10th, or 11th grade at the time of the interview. Twelfth graders were excluded because there were only 72 youths in the twelfth grade at the time of the interview, and twelfth graders were more than two and half times more likely to have skipped a grade than other students in the sample were. Because of the BLS's criteria for selection slightly more than half the whole sample was not yet in high school at the time of the first round interviews and the mean age of the sample was 14.3 years. Of the students in high school, more than forty percent were in ninth grade. The limitations imposed by such a young sample are described in the results section. Tables 1 through 3 describe the variables used in the analysis. The demographic variables are displayed in Table 1, the schooling characteristics in Table 2 and course and programs measures in Table 3.

Not included in Table 3 is the variable identifying curricular program. Students were asked which of the following categories best described their program of study: general program, college preparatory, academic or specialized academic, vocational technical or business and career, combination academic and vocational program, special education, home study, and other. This variable was used to create the curricular program variable and curricular program dummies with the following categories: general, academic, vocational, and combined. There were no home schoolers in the sample and students claiming participation in "other" were folded into the general category after exploratory analysis revealed no substantial differences between "other" and "general" students. Special education students were dropped from the sample because there were only 13 such students across all three grades and they differed too substantially from students in the general and other categories to include them in the general category.

I first examined differences in the demographic make-up of participants in each category. To do this I used a series of crosstabulations. I then used analysis of variance and linear regression to examine differences in schooling characteristics with a focus on educational expectations and school attendance. I then used a series of logistical regressions to examined differences in math and science course taking. Finally, I used crosstabulations to look at differences in participation in career-related programs.

TABLE 1. STUDENT DEMOGRAPHICS FOR ANALYTIC SAMPLE

Variable	Percentage[1]	Unweighted N
Total Sample	100	4,254
Gender		
Male	50.2	2,095
Female	49.8	2,159
Race/Ethnicity[2]		
White Non Hispanic	70.6	2,198
Black Non Hispanic	15.6	1,130
Hispanic All Races	13.6	917
Gross Household Income[3]		
Low Income	18.3	966
Middle Income	36.2	1,399
High Income	18.2	635
Grade		
9th Grade	42.6	1,865
10th Grade	37.0	1,574
11th Grade	20.5	815

1. Percentages were calculated using the sample weight provided by NLS.
2. .2% of the sample did not report race or ethnicity.
3. 27.2% of the analytic sample did not report household income. Low income = $26,000 or less, middle income = $26,001 to $70,001, and High Income = $70,002 and greater.

Table 2. Description of Schooling Characteristics Variable with Means and Standard Deviation for the Analytic Sample

Variable	Description	Mean	Standard Deviation
Eighth Grade Achievement	Self-reported: .5= mostly below Ds, 1=mostly Ds, 1.5=half Cs and Half Ds, 2=mostly Cs, 2.5=half Bs and half Cs, 3=mostly Bs,3.5=half Bs and half A's, 4=mostly A's	2.87	0.833
Probability of High School Diploma	Self-assessed probability of earning a high school diploma by the age of 20.	94.72	16.8
Probability of College Degree	Self-assessed probability of earning a college degree by the age of 30.	73.99	30.95
Absent	Days absent from school during previous semester.	5.41	7.98
Late to School	Times late to school without an excuse.	3.10	8.08

TABLE 3. DESCRIPTION OF COURSE AND PROGRAM VARIABLES WITH PARTICIPATION RATES.

Variable	Description	Percent
Math[1]		
Algebra	NA	82.4
Geometry	NA	41.7
Algebra II	NA	25.3
No Math	Student had not taken and was not taking any of these 3 courses.	16.5
Science		
Biology	NA	65.5
Chemistry	NA	21.0
Physics	NA	11.1
No Science	Student had not taken and was not taking any of these 3 courses.	28.3
Career-Related Programs		
Career Major	Participating in a defined sequence of courses with an occupational focus.	18.2
Career Mentor	Had been matched with a mentor.	4.4
Job Shadowing	Had spent time following workers.	12.5
School Sponsored Enterprise	Involved in the production of goods or service or use by others.	8.9
Tech-prep	In a planned program of study with a defined career focus and link to post-secondary education.	7.6
Cooperative Education	In a program combining academic and vocational studies with a job in a related field.	6.7
Internship/ Apprenticeship	Had worked for an employer in order to learn about an industry.	4.3
No Career-Related Program	Did not participate in Mentoring, Job Shadowing, School Enterprise, Coop, or Internship/Apprenticeship.	69.0

1. Students were asked if they had taken (or were enrolled in at the time of the interviews the given math and science course between seventh grade and the time of the interview.

Finally, as I began the analysis I was concerned about relying on a self-identification measure for identifying curricular program. Since Rosenbaum (1980) reported a large discrepancy between student self-identified curricular track and school-identified curricular track for the National Longitudinal Study of Youth 1972 cohort, researchers have debated the most effective way to identify curricular track. Some support using the student's self-identification, whereas others support using the school's placement of a student. A third way of measuring tracking is to look at students' transcripts and assign them track labels depending on the combination of classes they took. For example, Lucas and Gamoran (1993) and Lucas (1999) used Lucas's system of course-based indicators to position students in the track structure. Lucas's system classified students' math, science, English, social studies, and foreign languages into five categories: elite college, regular

college, junior college, business/vocational, and remedial (Lucas and Gamoran 1993, p. 7). In their 1995 study of the High School and Beyond cohort, Arum and Shavit also used curriculum-based indicators to identify student track.

It is unclear that any of the above methods sufficiently identifies track. Research shows that the different aspects to track are important to understanding track effects on student outcomes. In his 1980 study of the high school seniors, Rosenbaum focused on false track perceptions. An example of false perceptions would be students who thought they were in the academic track but who were actually in the general track according to the school administration. Because of such discrepancies, Rosenbaum used both the self-identified measure of track which he called "track perceptions" and the school administration's measure of track which he called "track" in his study of tracking effects. He found that both "track" and track perceptions" affected college attendance. What Rosenbaum found are what later Lucas and Gamoran (1993) and Lucas (1999) would refer to as social-psychological track location and structural track location. Lucas and Gamoran (1993) found that both social-psychological track location, as measured by student self-identification, and structural track location, as measured by course-based indicators, exerted independent effects on math achievement. The authors concluded that both measures of track location are important to studying the effects of tracking. Gamoran (1987) argued that student beliefs are important because they likely have an effect on outcomes of importance, as Rosenbaum (1980) found with college planning. Gamoran also felt it was important because if students choose their own courses then their beliefs about their program of study likely affect the actual program they experience.

The NLSY97 does not provide the means for identifying the structural track location of respondents. No transcript data or administrative student data was collected in the first round. Consequently, the curricular program variable (and the program participation, course taking, and grade point average variables) is dependent on student identification. However, though self-identification does not capture all aspects of curricular program, it does provide meaningful insight into how students view their course of study and the effect of their perceptions on their educational aspirations and participation. Future research should explore both the structural and social-psychological aspects of a combined program of study. Potential sources of data for exploring the structural aspects of the combined program include the National Education Longitudinal Study of 1988 and future rounds of the NLSY97.

Results/Findings

- Demographics

Table 4 shows that more students claimed participation in a combined course of study than a vocational course of study. Participation in both was higher in eleventh grade than in the lower grades. I hypothesize that because students in the upper grades have more room in their schedule for electives they are more likely to identify with a specific curricular program than students in the lower grades. Also, other characteristics that we associate with curricular program participation such as career and educational aspirations are likely more established in the upper grades than the lower grades and this too might affect how students identify their course of study. Table 4 shows a decline from grade 9

to 10 and from grade 10 to 11 in the percentage of students who identify themselves with the "general" program and increases in the percentage of students identifying with the other three programs. This lends support to my hypothesis. For these reasons, I conducted the rest of the analysis with a focus on students in the eleventh grade because they are more likely to have a substantial understanding of their curricular program.

Table 4. Percentage of Students in Each Major Curricular Category, Within Demographic Groups: Total Sample[1]

	General	Academic	Vocational	Combined
*Gender****				
Male	59.1	28.9	5.7	6.3
Female	53.9	36.7	4.3	5.0
*Race/Ethnicity****				
White Non Hispanic	54.2	36.5	3.9	5.3
Black Non Hispanic	55.7	25.6	10.2	8.4
Hispanic	69.7	21.1	4.7	4.5
*Household Income****				
Low Income	68.3	17.3	8.2	6.1
Middle Income	56.5	33.8	3.9	5.8
High Income	44.2	50.0	2.3	3.5
*Grade****				
Ninth	64.3	25.6	5.1	5.0
Tenth	54.1	35.7	4.5	5.8
Eleventh	44.9	42.6	5.6	6.9
Total	56.5	32.8	5.0	5.7

1. ~ $p < .1$, * $p<.05$, ** $p<.01$, *** $p<.001$ based on the Pearson Chi Square Statistic for the unweighted cell distribution.

Table 5 shows the same demographic measures as Table 4, but for students in the eleventh grade. Females participated in both vocational programs at a higher rate than did males with the gap most substantial for the combined program. The lower male participation rate is explained in part by their high participation in the general program. Females also participated at a much higher rate in the academic program than males did. However, the gender and curriculum program crosstabulations were not statistically significant at the traditional .05 level of significance. Crosstabulation of participation by race and by income level did reveal statistically significant patterns. Blacks participated in both vocational programs at higher rate than did whites or Hispanics with the gap being larger in the vocational program. Hispanics participated in the vocational program at a higher rate than whites but trailed whites in participation in the combined program. Hispanics were also the least likely to claim participation in the academic program. Likewise, students from low-income households were the most likely to participate in the vocational and general programs and the least likely to participate in the combined and academic program. Overall, students in the combined program better reflected the characteristics of the general high school population than did students in the vocational

Table 5. Percentage of Students in Each Major Curricular Category, Within Demographic Groups: Eleventh Grade[1]

	General	Academic	Vocational	Combined
Gender				
Male	48.5	39.9	5.5	6.1
Female	41.6	45.0	5.7	7.7
*Race/Ethnicity****				
White Non Hispanic	41.9	46.6	4.5	7.0
Black Non Hispanic	44.0	38.0	10.3	7.6
Hispanic	64.9	22.5	7.1	5.5
*Household Income****				
Low Income	58.3	24.8	10.9	6.0
Middle Income	48.3	41.4	3.5	6.8
High Income	33.7	57.8	2.4	6.1
Total	45.0	42.4	5.7	6.9

1. ~ p < .1, * p<.05, ** p<.01, *** p<.001 based on the Pearson Chi Square Statistic for the unweighted cell distribution.

Table 6. Percentage of Students Belonging to Various Demographic Groups, Within Each Major Curricular Category: Eleventh Grade[1]

	General	Academic	Vocational	Combined	Total
Gender					
Male	51.0	44.2	46.3	41.3	47.1
Female	49.0	55.8	53.7	58.7	52.9
*Race/Ethnicity****					
White Non Hispanic	67.9	80.3	57.6	74.1	73.0
Black Non Hispanic	14.5	13.3	27.1	16.3	14.8
Hispanic	17.6	6.5	15.3	9.6	12.2
*Household Income****					
Low Income	24.5	11.0	45.7	17.9	19.2
Middle Income	52.9	48.1	38.5	52.9	50.2
High Income	22.5	40.9	15.8	29.2	30.6

1. ~ p < .1, * p<.05, ** p<.01, *** p<.001 based on the Pearson Chi Square Statistic for the unweighted cell distribution.

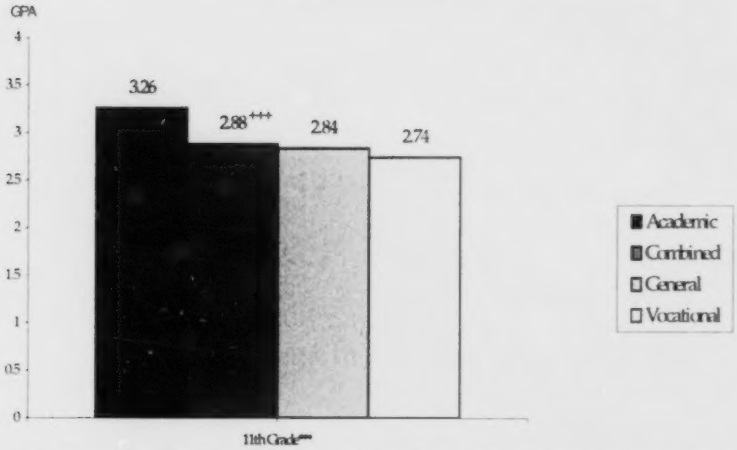
- Schooling

Self-assessed eighth grade grades is the only NLSY97 measure for academic achievement prior to secondary school. Consequently, it is used in the regression models

- Schooling

Self-assessed eighth grade grades is the only NLSY97 measure for academic achievement prior to secondary school. Consequently, it is used in the regression models as a control for prior ability. Figure 1 shows the means self-reported eighth grade grades for eleventh grade participants in each curricular group. Not surprisingly, students claiming to be in the academic track reported substantially higher grades than did students in the other programs. Combined students reported the second highest grades but the mean was not statistically different from the means for vocational and general program students.

Figure 1
Mean Self-Reported Eighth Grade GPA
by Curricular Group



Note: Tests of significance are based on one-way analysis of variance. Asterisks denote significance of omnibus test for whether any difference exists among the four groups: * p< .05, ** p< .01, *** p< .001 . Tests of significance of differences between pairs of categories are based on Tukey-Bonferroni post-hoc analyses. Plus signs above a bar indicate that the group denoted by that bar is significantly different from the group denoted by the adjacent bar to its left: + p< .05, ++ p< .01, +++ p< .001.

Figure 2 shows mean days absent for each curricular group.[2] Vocational students miss significantly more days of school than do academic and combined students. General students also miss more days of school than do academic students. Combined students report on average fewer days absent than do but the difference is not statistically different. However, in regression analysis not shown here, the difference was significant after controlling for prior academic achievement, gender, and family income. The difference between general and academic students and academic and vocational students remained significant with the addition of the controls.

[2] For the purpose of illustration, I multiplied the days absent variables by two. The NLSY97 variable asked students how many days absent they missed in the previous semester.

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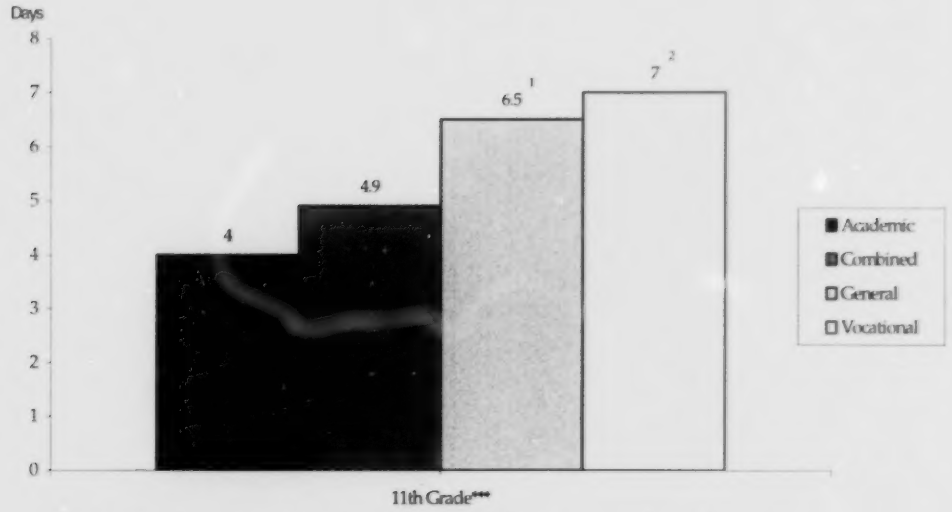
Figure 2
Mean Self-Reported Days Absent,
by Curricular Group



Note: Tests of significance are based on one-way analysis of variance. Asterisks denote significance of omnibus test for whether any difference exists among the four groups: * p < .05, ** p < .01, *** p< .001 . Tests of significance of differences between pairs of categories are based on Tukey-Bonferroni post-hoc analysis.
1. The general mean is significantly different from the academic mean at the .001 level.
2. The vocational mean is significantly different from the academic mean at the .001 level and from the combined mean at the .05 level.

Table 7 contains a series of ordinary least squares regression models with self-assessed educational prospects the outcome variable. Students were asked to assess their prospects of earning a high school diploma by the age of 20 and of earning a college degree by the age of 30. Academic students reported the highest probabilities of earning both a high school (mean of 99.5) and a college diploma (mean of 87.7). The differences held after controlling for demographic and achievement characteristics (see Model II and IV). Students in the combined program reported higher prospects of graduating from high school, but lower prospects of earning a college degree than did students in the general program. However, neither difference is statistically significant. Combined students reported higher prospects on average on both measures than did vocational students. Only the difference in high school prospects is significant. As Model II shows the difference remained significant after controlling for race, household income, gender, and prior achievement.

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Table 7. Ordinary Least-Squares Regression Models Predicting The Self-Assessed Probability of Eleventh Grade Students Earning a High School Diploma by the Age of 20 and the Probability of Earning a College Degree by the Age of 30 (Standard errors are in parentheses.)

	Model I (N=866)[1]	Model II (N=856)[1]	Model III (N=866)[1]	Model IV (N=856)
Outcome Variable	High School	High School	College	College
Household Income		5.462E-06		5.57E-05*
		(.000)		(.000)
No Reported Income[2]		-.794		4.696*
		(.889)		(2.057)
Black Non Hispanic		-.132		4.198
		(1.151)		(2.662)
Hispanic All Race		-4.340**		-.786
		(1.262)		(2.925)
8th Grade GPA		-.328		9.374***
		(.573)		(1.327)
Gender[3]		-.276		-4.283*
		(.810)		(1.876)
Academic	3.535***	2.756**	14.922***	9.464***
	(.880)	(.892)	(42.010)	(2.065)
Vocational	-3.867*	-2.522	-6.220	-5.833
	(1.830)	(.892)	(4.179)	(4.086)
Combined	2.934~	2.304	-2.349	-3.694
	(1.673)	(1.593)	(3.821)	(3.688)
Constant	95.958***	98.039***	72.786***	44.034***
	(1.724)	(2.007)	(1.403)	(4.647)
R-Squared	.03	.041	.077	.157

[1] Using the normalized sampling weight results in a total N approximately equal to the unweighted sample size. ~ p < .1, * p<.05, ** p<.01, *** p<.001 based on a t-test.

2. For students who did not report household income, we substituted the mean household income The variable "No Reported Income" is coded 1 for those who did not report income (about 1/3 of all students) and 0 for those who did.

3. Gender = 1 for females.

- Courses

Analysis to this point suggests important differences between vocational and combined students. The latter are a more heterogeneous group than the former and they attend school more often on average and have higher prospects for high school graduation than do vocational students. Analysis of math and science course taking suggests important similarities between the groups. Table 8 contains a series of logistic regressions with math and science course taking as the outcome (coded 1 if student reported having taken

or was currently enrolled in the given class). Algebra and Biology were chosen because college bound students usually take them by the start of eleventh grade. Failure to have done so suggests that a student may not be bound for college, or at least not a four-year college. Table 8 shows that academic students were the least likely to report having taken no math and no science and the most likely to have taken algebra and biology (the advantage held for geometry in analysis not shown). General students were less likely to have taken no math and more likely to have taken algebra than either vocational or combined students. However, there were no statistically significant differences in science taking between general, combined, and vocational students, though combined students were slightly more likely to have not taken any science classes. These variables are self-reported so they should be interpreted with caution. However, they do indicate that when it comes to course enrollment combined and vocational students are less "academic" than students in other programs.

Table 8 Logistic Regressions Predicting Eleventh Grade Participation in Math and Science Classes (Standard errors in parentheses)[1]

	No Math	No Science	Algebra	Biology
Gross Household Income	-1.6E-05*	1.11E-06	1.50 E-05*	6.85E-06
	(6.59E-06)	(6.414E-06)	(6.003E-06)	(5.982E-06)
No Reported Income[2]	-.2495	-.0267	.2657	-.1961
	(.3376)	(.4213)	(.3165)	(.3193)
Gender[3]	-.1645	.6275	.2001	-.5472~
	(.3767)	(.4212)	(.2842)	(.3206)
Black Non Hispanic	-.9311*	-1.5151	.7533~	.4216
	(.4687)	(.9679)	(.4244)	(.4693)
Hispanic All Race	-.2913	.4245	.3893	-.2923~
	(.4155)	(.4624)	(.4115)	(.3788)
8th Grade GPA	-.6118**	-.6854*	.4949**	.7182***
	(.2042)	(.2671)	(.1906)	(.2075)
Academic	-1.8023**	-2.0695**	1.1543**	1.4478**
	(.5782)	(.7599)	(.4214)	(.4614)
Vocational	1.6885***	-1.4594	-1.5691***	.6061
	(.3879)	(1.304)	(.3824)	(.6636)
Combined	1.0588**	.8806~	-1.0452**	-.2949
	(.3969)	(.4843)	(.3838)	(.4560)
Constant	.2777	-.1.3578	.0199	.3775
	(.6965)	(.9048)	(.6560)	(.7087)

1 ~ = p < .1, * = p<.05, ** = p<.01, *** = p<.001 based on a Wald Chi Square Statistic.

2. For students who did not report household income, we substituted the mean household income The variable "No Reported Income" is coded 1 for those who did not report income (about 1/3 of all students) and 0 for those who did.

3. Gender = 1 for females.

- Career Related Programs

If there is one measure in which vocational and combined students should differ substantially from other students it is participation in vocational activities. Students following a combined course of study should participate at a higher rate in vocational classes and programs than do general and academic students. Unfortunately, the NLSY97 did not collect information about vocational course enrollment. However, they did collect extensive information about enrollment in school-to-work and other career-related programs. In addition to basic participation, questions covered intensity of involvement, relationship to classroom activities, and the nature of internships. Future rounds of the NLSY97 should provide a rich resource for studying participation in these programs.

Basic participation rates for both the whole sample and eleventh grade sample are reported in Tables 9a and 9b. Focusing on eleventh graders the most surprising finding is that students in the different programs are equally likely to have participated in job shadowing, school-sponsored enterprise and career mentoring, though participation in the latter two programs was low across all groups. This suggests that these programs were equally available to all students. The differences for the more intensive programs are not surprising. Vocational and combined students participated in Tech-Prep, Co-op, and Career Major programs at much higher rates than did their academic and general peers. Tech-Prep, Co-op, and Career major programs usually require structured sequences of academic and vocational coursework. In addition, enrollment requires a major investment in activities, such as internships, that do not necessarily contribute to the likelihood of attending a four-year college. Thus, it is not surprising that academic students report low participation in these programs. These are students likely to shy away from an activity that labels them as vocational and thus non-college bound.

Again, results again should be interpreted with caution because they are based on student self-reports. Despite the definitions provided by NLS, students might have had varying ideas about what constitutes a career major or tech-prep program. Analysis not shown found that a number of ninth graders reported participating in tech-prep programs. Tech-prep programs usually enroll eleventh and twelfth graders. However, the resulting gaps in participation are substantial enough to suggest major differences in the vocational activities of students in the different curricular programs.

Table 9a. Percentage of Students in Each Curricular Category Who Participated in Career-Related Programs and Activities[1]

	School-Sponsored Enterprise		Job Shadowing		Career Mentoring		No Career Activities[2]	
	All***	11th	All**	11th	All**	11th	All***	11th**
General	7.3	9.5	11.1	13.5	3.5	5.8	73.5	66.7
Academic	10.0	10.8	14.9	16.7	5.6	7.8	68.1	62.8
Vocational	13.1	16.2	11.4	12.7	4.6	2.2	44.8	50.2
Combined	14.7	10.1	14.2	17.0	6.4	5.1	52.2	45.2
Column Totals	7.6	10.5	12.5	15.1	4.4	6.4	69.1	62.6

1. ~ p < .1, * p<.05, ** p<.01, *** p<.001 based on the Pearson Chi Square Statistic for the unweighted cell distribution.

2. "No Career Activities" means the student did not participate in school-sponsored enterprise, job shadowing, career mentoring, internship/apprenticeship, tech-prep, or co-op.

Table 9b. Percentage of Students in Each Curricular Category Who Participated in Career-Related Programs and Activities (Continued)[1]

	Internship /Apprenticeship		Tech-prep		Co-op		Career Major	
	All***	11th~	All***	11th**	All***	11th***	All***	11th***
General	3.7	5.8	5.8	6.1	5.2	6.7	15.8	20.2
Academic	3.4	5.6	6.6	7.8	5.0	6.5	16.4	17.0
Vocational	10.9	13.8	27.1	26.6	17.2	22.2	45.1	48.5
Combined	9.5	16.2	14.7	15.3	23.1	26.2	31.2	41.0
Column Totals	4.3	6.9	7.6	8.6	6.8	8.8	18.3	21.9

1. ~ p < .1, * p<.05, ** p<.01, *** p<.001 based on the Pearson Chi Square Statistic for the unweighted cell distribution.

[2]Percentage of those who said they had participated in a Career Major program.

Conclusion

Students who claimed to participate in a combined program were less likely to belong to a racial or ethnic minority group, and were more likely to come from families with higher incomes than traditional vocational students. Students traditionally at the greatest disadvantage in schooling, individuals from low-income households and of Hispanic ethnicity, were the most likely to participate in a traditional vocational course of study. This research cannot suggest causality but only correlations. Still it is surprising that a combined program of study seems to appeal to a heterogeneous group of students given the past hesitancy of students to associate with a vocational program. Results from the analysis of participation in career related programs reveal a strong vocational aspect to participation in a combined program.

Differences between vocational and combined students on schooling characteristics were mixed. Combined students missed fewer days of school and were more confident of graduating from high school than were vocational students (an almost 7% gap in self-assessed prospects). These findings suggest that combined students may have a stronger commitment to school. However, combined students were no more likely to have taken biology and algebra than were vocational students. Both groups showed a severe math disadvantage relative to general and academic students. This is troubling because data was collected seven years after the passage of the Perkins renewal in 1990. Even allowing for implementation time, vocational students regardless of vocational or combined status should have taken or been enrolled in algebra by the eleventh grade in 1997. The failure of combined students to have taken algebra suggests that they differ from vocational students only in academic attitude not academic practices. This differs sharply from the findings of Arum and Shavit (1995) and Levesque and colleagues (1999). However, both sets of researchers used transcript-based measures to identify a students completed program of study. In fact, a criterion for being a combined student in the Levesque study was the completion of three credits of math at the algebra level or higher. Thus, it is not surprising then that they found that combined students in 1982, 1990 and 1994 took more academic classes than did vocational and general students and that they achieved at a higher academic level.

Since Rosenbaum's findings of discrepancy between self-reported and school-reported curricular program (1980), researchers have questioned how to measure this important variable. Both structural measures of curricular program and social-psychological measures of curricular program affect student outcomes. What each measures is a subject worthy of pursuit. The findings reported here suggest that self-identified measures of curricular program capture differences in attitudes and perhaps some structural issues as well. Combined students differed from vocational students in their confidence about schooling and vocational and combined students differed from the other groups in their commitment to intensive career-related programs.

The analysis reported here is only the beginning. The second round of the NLSY97 will become available to researchers this year. It, and future rounds, will provide the

opportunity to study an older cohort of students, early labor market and postsecondary outcomes to secondary education, and the longitudinal effects of participation in a combined program, as well as participation in intensive career-related programs. In addition, if BLS eventually decides to collect transcript data then researchers can simultaneously explore the effects of the structural and social-psychological aspects of curricular track.

Meanwhile, the research reported here suggests some important differences between vocational and combined students. The implications of the fact that students pursuing a combined program represent a broader cross section of the high school population than do vocational students are mixed. It is encouraging that students of different backgrounds choose to combine academic and vocational coursework. It suggests the appeal of curricular integration and the recognition of the potential educational and labor market returns. However, it is disheartening that traditional vocational education students remain the most disadvantaged students. Ideally, as the Perkins reforms spread and participation in programs like tech-prep become more common, then all vocational students will pursue a combined program of study. However, the research here reveals the potential for the coexistence of two vocational tracks with one being more advantaged than the other.

References

Arum, Richard, and Yossi Shavit. (1995). "Secondary Vocational Education and the Transition from School to Work." Sociology of Education, 68, No.3

Benson, Charles. (1997). "New Vocationalism in the United States: Potential Problems and Outlook". Economics of Education Review, 16, 3:201-212

Bishop, J., 1989. "Occupational training in high school: When does it pay off?" Economics of Education Review 8, 1:1-15.

Center for Human Resource Research, 1998. NLSY97 Users' Guide . Columbus, Ohio: Center for Human Resource Research, Ohio State University.

Counts, George S. (1922). The Selective Character of American Secondary Education. Supplementary Educational Monographs, no. 19. Chicago; University of Chicago.

Dewey, John. 1915."Education vs. Trade-Training (a reply to David Snedden)". New Republic 3, May 15

Dewey, John. 1913. "An Undemocratic Proposal". Vocational Education II

Eckert, Penelope. (1989). Jocks and Burnouts: Social Categories and Identity in the High School. New York: Teachers College Press.

Gamoran, A. 1998. "The Impact of Academic Coursework on Labor Market Outcomes for Youth Who Do Not Attend College: A Research Review." from The Quality of Vocational Education: Background Papers from the 1994 National Assessment of Vocational Education. edited by Gamoran, A., Washington D.C.: National Institute on Postsecondary Education, Libraries, and Lifelong Learning, Office of Educational Research and Improvement, U.S. Department of Education.

Gamoran, Adam. 1987. "The Stratification of High School Learning Opportunities." Sociology of Education 60, July:135-155.

Grubb, W. Norton. 1996. "The New Vocationalism: What It is, What it Could Be." Phi Delta Kappan, April: 535- 546

Heebner, A., 1995. "The Voices of Students at Magnet Schools." from Education Through Occupations in American High Schools: Volume One, Approaches to Integrating Academic and Vocational Education. Edited by Grubb, W.N., New York: Teachers College Press.

Kang, S. and Bishop, J., 1989. "Vocational and academic education in high school: Complements or substitutes?" Economics of Education Review 8, 2: 133-148.

Levesque, K., Lauen, D., Teitelbaum, P., Alt, M., Librera, S., and Nelson, D., 1999.

Vocational education in the United States: Toward the year 2000. Washington, D.C.: U.S. Department of Education, National Center for Education Statistics.

Levesque, Karen, Mark Premo, Robert Vergun, David Emmanual, Steven Klein, Robin Henke, Susan Kagehiro, and James Houser. (1995). Vocational Education in the United States: The Early 1990s (NCES-95-024). Washington D.C.: United States Department of Education.

Little, Judith Warren, and Susan M. Threatt. (1992). Work on the Margins: The Experience of Vocational Teachers in Comprehensive High Schools (MDS-166). Berkeley: National Center for Research in Vocational Education

Lucas, Samuel Roundfield. (1999). Tracking Inequality: Stratification and Mobility in American High Schools. New York: Teachers College Press

Lucas, Samuel R. and Adam Gamoran. 1993. Race and Track Assignment: A Reconsideration with Course-Based Indicators of Track Locations. Working Paper, University of Wisconsin – Madison

Rivera-Batiz, Francisco L. (1998). A Profile and Analysis of Students in Vocational Training: Literacy Skills, Demographics, and Socioeconomic Characteristics (MDS-809). Berkeley: National Center for Research in Vocational Education.

Rosenbaum, James E. 1980. "Track Misperceptions and Frustrated College Plans: An Analysis of the Effects of Tracks and Track Perceptions in the National Longitudinal Survey." Sociology of Education 49

Stern, David 1999. Improving Pathways in the United States from High School to College and Career. Paper presented at the conference entitled "Preparing Youth for the 21st Century: The Policy Lessons from the Past Two Decades", Washington D.C. February 23-24 in Washington D.C.

Stern, D., Finkelstein, N., Stone, J.R. III, Latting, J., and Dornsife, C., 1995. School to Work: Research on Programs in the United States. Washington and London: Taylor and Francis, Falmer Press.

Visher, Mary G. and Doug Lauen, Linda Merola, and Elliott Medrich. (1998). School-to Work in the 1990s: A Look at Programs and Practices in American High Schools. Washington D.C.: United States Department of E

SCHOOL AND WORKPLACE INITIATIVES AND OTHER FACTORS THAT ASSIST AND SUPPORT THE SUCCESSFUL SCHOOL-TO-WORK TRANSITION OF MINORITY YOUTH

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Introduction

The demographic composition of our society is undergoing a historic transition from a predominately White society rooted in Western culture to a global society composed of diverse racial and ethnic minorities (O'Hare, 1993; Triandis, Kurowski, & Gelfand, 1994). Currently, racial and ethnic minorities comprise about twenty-eight percent of the U.S. population (U.S. Bureau of the Census, 1998). According to the U.S. Bureau of the Census (1996) projections, during the next ten years non-Hispanic White will contribute to only one-quarter of the total population growth. From 2030 to 2050, the non-Hispanic White population will contribute nothing to the Nation's population growth because it will be declining in size. African Americans, Asians, and Hispanics will out number Whites in the U.S. By 2010, Hispanics are expected to supplant African Americans as the nation's largest minority group. The rapid growth of minorities has been and will continue to be marked by an increasing diversity in terms of language differences, cultural beliefs, and other practices as new immigrant groups (e.g., Vietnamese, Cambodians, Dominicans, Nicaraguans) join earlier immigrants (Mexicans, Cubans, Chinese, and Japanese) (O'Hare, 1993; U.S. Bureau of the Census, 1996).

An increasing number of youth in the 16 to 24 year old age group are entering the job market. They are likely to be more ethnically diverse than workers in today's workforce (Finney, 1989; Johnston & Packer, 1987; Triandis & Bhawuk, 1994). African-American and Hispanic birth rates are four and seven times respectively that of White Americans. The proportion of African-Americans youth population, ages 14 to 24, will increase from 5,859,000 in 1990 to a projected 7,411,000 by the year 2010. Likewise, Hispanics will increase from 4,791,000 to 9,666,000 (US Bureau of the Census, 1996). Increase in the numbers of minority youth will require business organizations to consider hiring more African-American and Hispanic employees (Triandis & Bhawuk, 1994). According to Hamilton (1990), "The great challenge facing the nation is to prepare a changing population of young people to do new kinds of work. Failure imperils economic health, social progress, and democracy itself" (p. 1).

Racial and linguistic bias continues to stifle employment opportunities for minority youth including American Indian or Alaskan native, Asian or Pacific Islander, African American, Hispanic and other racial minorities between the ages of 16 - 24 years (Hill & Nixon, 1984). Schools have not fully developed, nor have workplaces fully utilized, the talents of minority youth (Hamilton, 1990; Triandis, 1976; Triandis & Bhawuk, 1994). Minority youth have a greater probability of being poor, living in poverty, or otherwise disadvantaged. An increasing numbers of young people are diverging from the white

middle-class pattern. Educational institutions and workplaces must adapt to changes in the youth population. Education and workplace training that are typically effective with advantaged youth will not necessarily enable disadvantaged youth to reach their full potential (Bloomfield, 1989; Hamilton, 1990; Ihlanfeldt & Sjoquist, 1993).

Kantor and Brenzel (1992), relate that after two and half decades of federal, state and local efforts to improve urban education for low-income and minority children, achievement in inner-city schools continue to lag behind national norms and dropout rates in inner-city high schools especially among African-Americans and Hispanic youths remain distressingly high. At the same time many of those who do graduate are often poorly prepared and they cannot compete successfully in the labor market. Business-Higher Education Forum (1990), underlines the joblessness issue for Blacks and Hispanics by saying that in any given month, Hispanic unemployment is about 50% higher than the rate of Whites, and black unemployment is 2.5 times higher than that of Hispanics.

The unemployment struggle that minority youth face has an overpowering effect on America. Prior unemployment gives a high risk of unemployment later (Andress, 1989; Hammer, 1996). In addition, it poses huge financial and societal challenges to the competitive advantage of America. Responding to the poor school-to-work transition of minority youth is an expensive undertaking in itself. With more than 20 percent of high school students dropping out and with a drop out rate of 50 percent in the cities, more than a third of America's front-line labor force is at stake (Sarkees-Wircenski & Wircenski, 1994). As we move into the next decade it is imperative that we identify what initiatives continue to support and assist the successfully transition of minority youth into the workplace. To assure that the larger more diverse youth of the next decade are prepared to do the work of the new decade and new century, their transition into the workplace must be made smoother and more efficient.

Purpose of the Study

The purpose of this study was to identify the school and workplace initiatives and other factors that assist and support the successful transition of minority youth into the workplace. Initiatives for the purpose of this study are specific activities, programs, policies and any other formal and informal process or effort designed to facilitate the successful transition of minority youth into the workplace. The information from this study can be used to inform educators, business and industry leaders, minority youth, and society as a whole of the initiatives that assist and support the successful transition of minority youth into the workplace. Being knowledgeable about these initiatives may assist school personnel in revising their curricula and developing educational activities that will assist and support the successful school-to-work transition of minority youth. The information from this study may also assist employers in developing strategies, initiatives, and policies that assist and support the successful transition of minority youth into the workplace. Additionally, the information from the study can inform community people of the initiatives that can better help them develop activities and programs to support minority youths transition into the workplace. Lastly, information from this study can be used by minority youth to better understand the situations they face and help them make informed decisions.

This study examined the following major research questions: What are the school initiatives that are the most likely to assist and support the successful transition of minority youth into the workplace? What are the workplace initiatives that are the most likely to assist and support the successful transition of minority youth into the workplace? What are the criteria for determining sensitive work-based learning sites and/or companies that assist in the successful transition of minority youth into the workplace?

Methodology

This was a descriptive and exploratory study. The major method of data collection was in-depth, open-ended telephone interviews with a panel of 21 school-to-work partnership directors from 16 states across the United States. These school-to-work partnership programs receive direct federally-funded Urban/Rural Opportunities Grants (UROGs) from the U. S. Department of Education, National School-to-Work Office. An interview guide was developed to obtain detailed information in order to produce an in-depth understanding of the school and workplace initiatives and other factors that assist and support the successful transition of minority youth into the workplace. The data provided by the participants consisted of words in the form of rich verbal descriptions (qualitative data), as well as quantitative data. Qualitative data provided the essential research evidence, while quantitative data was used to support qualitative data.

Population

The population for this study was composed of all 21 direct federally-funded Urban/Rural Opportunities grants (UROGs) school-to-work partnership programs in the United States listed in the report, School-to-Work Grantee List, (U.S. Department of Education, 1998). This population of school-to-work partnership programs was selected because these partnerships are more likely to support minority youth, since the grants support specific strategies to address the multiple needs of urban and rural in-school and out-of-school youth in high poverty areas (U.S. Department of Education, 1997). The 21 school-to-work partnerships were located in 16 states.

Since the sample of school-to-work sites is small and the majority of students they serve are minority (86%), the findings may not be representative of all STW partnership program sites. However, it is believed that what we learned from these sites can be transferred or generalized to other school-to-work sites that serve minority youth.

Data Collection

We conducted telephone interviews with the directors of the 21 school-to-work partnerships using a semi-structured interview guide to assist us in collecting data. The semi-structured interview guide was divided into the four following sections: (a) School initiatives; (b) workplace initiatives; (c) goals advocated for minority youth; and (d)

criteria for determining sensitive workplaces. All participants were encouraged to describe the initiatives and other factors in detail.

Names and phone numbers of the 21 school-to-work partnership directors who participated in the study were obtained from the School-to-Work Grantee List, (U.S. Department of Education, 1998). Initial contacts with the school-to-work partnership directors were made over the telephone, at which time, dates, interview appointments, and arrangements were made. All 21 school-to-work partnership directors that were contacted consented to participate. Each participant received a letter confirming the telephone interview appointment and a copy of the interview guide two weeks before the scheduled interview. Telephone interviews were conducted from March to May, 1998. All interviews were tape recorded and extensive notes were also taken during each interview. Before starting the interviews, each interviewee was asked for approval to tape the interview. In addition, each participant completed a Demographic Information Form that asked for information about themselves and the school-to-work partnership.

Data Analysis

Data from the interviews were content-analyzed manually and with computer. Content analysis is a research technique for systematically examining the content of communications--in this instance, the interview data. Participants' responses to interview guide questions and the related issues that arose during the interview process were read and put together as complete quotations and filed according to the topic or issue addressed. Responses were analyzed thematically. Emergent themes were ranked by their frequency of mention and were ultimately categorized. Essentially, we used a qualitative approach to analyze the responses. Frequencies and percentages supported qualitative data. The qualitative method was considered an appropriate way to explore the initiatives and other factors that assist and support the successful transition of minority youth into the workplace because of its descriptive nature to understand the whole of an event through insight and discovery (Bogdan & Biklen, 1992).

To further ensure the reliability of the data analysis, we each separately reviewed the interview data from all the interviews and identified the various initiatives and other factors that assist and support the school-to-work transition of minority youth mentioned in the text. In addition, we invited a school-to-work partnership director to review the interview data from three of the interviews and identify the various initiatives and other factors that assist and support the school-to-work transition of minority youth mentioned in the text. There was unanimous agreement among all of us regarding the initiatives and factors identified.

Results

The results of this study are summarized in four sections which parallel the research questions: (a) school initiatives that assist in the successful transition of minority youth into the workplace, (b) workplace initiatives that assist in the successful transition of minority youth into the workplace, (c) goals advocated for minority youth who are

making the transition into the workplace, and (c) criteria for determining sensitive workplaces.

School Initiatives that Assist Minority Youth

The study participants were asked to identify the school initiatives that are most likely to assist and support the successful transition of minority youth into the workplace. The five school initiatives most frequently mentioned by the school-to-work directors included: (a) Design and implement an integrated and relevant curriculum 21 (100%); (b) provide training for school personnel (e.g., teachers, counselors, administrators), 15 (71%); (c) provide mentoring for minority youth, 14 (67%); (d) provide career exploration and guidance for minority youth, 12 (57%); and (e) obtain parent involvement, 11 (52%).

Integrated and Relevant Curriculum

Design and implement an integrated and relevant curriculum was mentioned by all the study participants as an important school initiative for assisting and supporting the successful transition of minority youth into the workplace. An integrated and relevant curriculum enables minority youths to connect classroom learning with activities in the workplace, as well as other settings. An integrated and relevant curriculum also allows minority youths to see how knowledge from different subject areas can be applied. Study participants indicated that what minority students learn in the classroom needs to be better connected to the workplace. According to the study participants, social, employability, academic, and vocational skills all need to be integrated into the school curriculum. Generally, these types of curricula that integrate academic and applied learning and engage the students in the instructional process are better at preparing minority youth to be successful in the workplace. In addition, minority youths are likely to be more motivated to stay in school because they have a better understanding of the connection between what they learn in school and obtaining a good job.

Training for School Personnel

Nearly two-thirds (71%) of the participants indicated training for school personnel (e.g., teachers, counselors, administrators) as an initiative that assists and supports the successful transition of minority youth into the workplace. The areas of training most frequently mentioned by study participants included: diversity, technology, instructional methods, workplace knowledge and skills, and mentoring minority youth. Study participants indicated that attention needs to be devoted to diversity training for all school personnel. This type of training can provide school personnel with awareness of the cultural and other differences that minority youth bring with them to school. The training can also provide the specific information needed to work with and teach a diverse student population. These skills and knowledge can then assist school personnel to establish networks and support systems for minority youths in the schools.

Study participants also indicated that technological training will assist school personnel in staying current with the dynamic changes occurring in the workplace. Technology in the workplace has caused much of the direct labor to be done by machines, while humans increasingly are more involved in indirect work, mainly with knowledge

and information. These technological changes require minority youth to have more high-order thinking skills to be competitive in the job market. According to the study participants technological training will assist school personnel in designing classes that emphasize the more analytical skills needed in the today's job market.

According to study participants teachers also need training that will introduce them to a variety of instructional methods. This type of training should provide them with the skills necessary to utilize the teaching designs that are most appropriate for accommodating minority students with diverse learning styles.

Study participants stated that there are some teachers who lag in workplace knowledge and skills, and this handicaps their teaching capability. Teachers need workplace training so that they can better understand workplace cultures, systems, procedures, structures, and expectations. Study participants stated that school personnel need to participate in workplace internships. This practical experience can then expose them to the workplace and help them to see how classroom learning applies to the world of work. For example, they can obtain a better understanding on how math and physics can have visible applications in the workplace. Thus, this type of training helps teachers to give minority youths a more realistic workplace preparation in the classroom.

Study participants indicated that school personnel need training on how to effectively mentor minority youth. They said that such training should include information in such areas as the minority youths' academic performance, educational background, culture, and environmental constraints. School personnel that undergo such training are more likely to have the knowledge to customize their mentoring approach to individual minority youths. Additionally, mentor training offers school personnel who have not worked with minority youths strategies and tools to effectively reach this particular group. Through mentor training school personnel learn to set and maintain high standards for minority youth, a crucial issue for assisting minority youths in achieving success. According to the study participants school personnel need to demand high expectations of minority youths because they have the tendency to rise to the level of expectation that is placed on them. School personnel need to be persistent with minority youths because they can easily lose focus and drop-out of school.

Mentoring for Minority Youth

Over half (67%) of the study participants identified mentoring as an initiative that assists and supports in the school-to-work transition of minority youths. Mentoring was mentioned as an important approach schools can take to change the attitudes of youths toward school and work. These mentors could be teachers, counselors, or other adults from the community who work closely with the schools. These adult mentors can provide minority youth with important guidance, support and encouragement. According to study participants the exposure that mentoring offers minority youth goes beyond that of school and work-related advice, but has the power to positively impact their motivation, self-esteem and self-confidence, which is much needed for their development. While any teacher or other adult who has the best interest of the minority youth in mind can be a good mentor, study participants felt that mentors who speak the student' s language, or who has some similarity with the student's background is capable of reaching the student

at a deeper level and at a quicker pace. Study participants said that this is crucial for minority youths, because often they need to establish a comfort and trust level before they start talking and listening. Study participants stated that caring adult mentors are central to the empowerment of minority youths. What makes a difference in a minority youth's life is having someone who cares and provides guidance through demonstration, instruction, challenge, and encouragement. Though, there are minority youths who have this at home, there are many whose parents are unable because of their poverty and lack of experience to help them set and achieve challenging goals. Study participants indicated that minority youths who establish long term relationships with adult mentors are usually the most likely to be successful in school and the workplace.

Career Exploration and Guidance for Minority Youth

Fifty-seven percent of the study participants reported providing career exploration and guidance as an initiative that assists and supports in the school-to-work transition of minority youths. Effective career exploration and guidance programs help minority youths explore careers so that they can set realistic goals for the future and establish plans to achieve them. It is essential that minority youths have opportunities for career exploration and a broad perspective on the many career options. In many cases, minority youth do not have the proper guidance to determine their career options and how to effectively pursue them. According to the study participants, in many minority youths' homes careers are not discussed because parents don't have steady jobs or are on welfare. This lack of career information and exposure combined with a lack of mentors and role models leave minority youths uncertain of what they can do or want to do in the future. Proper career exploration and guidance programs in schools can help minority youth understand the wide range of career opportunities that are available to them, so that they can better plan for the future.

Parent Involvement

Fifty-two percent of the study participants cited obtaining parent involvement as an initiative that assists and supports in the school-to-work transition of minority youths. The study participants believed that parental involvement is essential to minority student achievement. The problem is that parents of minority youth many times do not get involved in their children's education because their own lack of formal education and belief that they have little to offer, especially those who speak little or no English. To maximize minority parent involvement, study participants stated that school personnel need to realize that the degree of involvement will depend on the parents' perception of the purpose and benefits, their comfort level, and their sense of self. School personnel, then, need to investigate what these perceptions are to better be able to demystify perceptions, remove obstacles, improve processes or change systems to better be able to reach minority parents. Study participants said that while continuous communication is key for the prevalence of minority parent involvement, school personnel need to pay keen attention on which medium works best. Study participants also heightened that the medium has to be engaging and non-intimidating. Lack of parent support fosters a negative response to school assignments and education as a whole for minority youth. A study participant noted, "It is very visible when minority parents are involved in their

child's education, the type of work that students produce in the classroom and at home tells the story."

Workplace Initiatives that Assist Minority Youth

The study participants were asked to identify the workplace initiatives that are most likely to assist and support the successful school-to-work transition of minority youth. The five workplace initiatives most frequently mentioned by the school-to-work directors included: (a) Provide work-based learning, 21 (100%); (b) provide diversity training for employers, 19 (90%); (c) provide mentoring for minority youth, 14 (67%); (d) provide career development programs, 12 (57%); and (e) develop and implement organizational policies that mandate fairness and equity for all employees, 11 (52%).

Provide Work-Based Learning

All of the study participants identified work-base learning as an initiative that can assist and support the successful transition of minority youth into the workplace. According to the study participants work-base learning is a planned program of on-the-job education and supervised work experiences. They indicated that work-based learning gives relevance, meaning and leverage to classroom learning and serves as an initiation into the world of work. Work-based learning may include such activities as job shadowing, internships, guided business tours, and apprenticeships. Through work-based learning minority youth can better understand, apply and make connections between what is taking place in school and the workplace. Study participants indicated that students who participate in work-base learning are better able to select courses, discern the importance of academic performance, and have a basis from which to validate career and academic decisions. Study participants added that work-base learning provide minority youth with a sense of direction and assist them in developing a career plan,--something that is often lacking among many minority youths. In addition, work-based learning gives minority youths the opportunity to learn about a company's corporate culture (mission, vision, values, beliefs, dress code, work ethic and appropriate behaviors) through daily observation, interaction and communication. This, study participants say, sets the stage for subsequent workplace experiences because minority youths enter the workplace with awareness and with strategies that can help them access a company's culture more readily . Through work-based learning activities minority youths come in contact with real workplace issues that require problem solving and decision making skills. This practice, study participants say, give minority youths the experience they need to more likely succeed in today's competitive workforce.

Diversity Training for Employers

Provide diversity training for employers was cited by ninety percent of the study participants as an initiative that can assist and support the successful transition of minority youth into the workplace. Diversity training as it relates to minority youths was capitalized as an acute need in organizations. This type of training was considered important for such areas as awareness building, skill building, and educating employees of the cultural and other differences that minority youth bring to the workplace. The training should provide the specific information and skills needed to work effectively with

minority youth in order to give them the opportunity to do their job effectively and have the chance for advancement. Study participants mentioned that there are too many misconceptions and assumptions about minority youths and their capability in the workplace and this negatively impacts their school-to-work transition. An example cited by the study participants is the tendency employers have to lower performance expectations for minority youths. Study participants indicated that culture also needs to be addressed. Knowing how culture impacts the behaviors and mindsets of minority youths are often absent in the minds of employers and this has caused stereotypes and overgeneralizations. Study participants emphasized that it is imperative to dispel such notions. Diversity training, if done effectively, can foster understanding and assist employers in engaging in the right course of action when working with minority youth.

Mentoring For Minority Youth

Mentoring programs (67%) were also frequently mentioned by the diversity experts as an initiative to assist and support the successful transition of minority youth into the workplace. The study participants felt that mentoring programs for minority youth are extremely important. Minority youth need mentors who will assist them in understanding the organization's standards, offer feedback on their performance, make them aware of organizational norms and politics, suggest strategies for advancing in their careers, and encourage them to meet high performance standards. The study participants also believed that companies need to have formal mentoring programs because otherwise the mentoring for minority youth may not happen. People have a tendency to mentor people who are like themselves. Therefore, if minority youth come into a workplace where there are not people like them, they are not likely to obtain a mentor on an informal basis. According to the study participants, mentoring programs positively impact the plight of especially poor minority youths. Poor minority youths are able to develop relationships that they may never have had before. Mentoring relationships that extend over time positively impact minority youths' aspirations, motivation, inner strength, awareness, self confidence, and self esteem. Study participants reported that mentors accentuate the power of life long learning, validate classroom learning, and make the workplace more accessible and less intimidating for minority youth

Career Development Programs

Over half (57%) of the study participants identified career development programs as an initiative that could assist minority youth in the successful transition into the workplace. They believed that in order for companies to create an environment that is fair, equitable, and which develops trust, loyalty, and commitment among all employees, they must develop more systematic employee career planning and guidance programs. They felt that individuals such as, human resource professionals should be available to guide minority youth through the career planning process. They felt that it is important for minority youths to understanding their strengths and weaknesses in order for them to more effectively establish their career goals and objectives. The study participants emphasized that poor career planning opportunities is one of the main reasons minority youth fail to advance in many organizations. When career guidance and information is provided to all employees it enable minority youths to compete more effectively with

other employees by using these resources to obtain career information that may otherwise not be available to them.

Organizational Policies that Mandate Fairness and Equity for all Employees

Development of organizational policies that mandate fairness and equity for all employees (52%) was also an initiative that was frequently mentioned by the study participants. They felt that revising organizational policies and procedures so that they support diverse needs is an essential initiative for assisting and supporting the successful transition of minority youth into the workplace. The range of possibilities mentioned by the study participants were very broad and some of the examples they stated included: changing corporate culture and policies where racism, sexism, and discrimination is not tolerated; developing a company's mission statement that makes it clear that diversity needs to be valued, honored, and differences respected; changing recruitment policies to focus on recruiting, hiring, and retaining minority employees; developing performance appraisals that are non-discriminatory; and developing policies that ensure pay equity for all workers. The study participants emphasized that companies need to change their organizational cultures and develop new policies and systems to accommodate for the changes taking place in the workplace. This does not mean lowering standards, but changing the way companies do business to assure that everybody including minority youths can use their full potential.

Criteria for Determining Sensitive Workplaces

Lastly, the study participants were asked to identify the criteria for determining sensitive workplaces. The criteria most frequently mentioned by the school-to-work directors included: (a) Successful in recruiting, hiring and retaining minority employees, 16 (76%); (b) minority employees are represented at all levels of the company, 14 (67%); (c) absence of discrimination lawsuits, 13 (62%); (d) use a combination of initiatives to address diversity, 12 (57%); and (e) has a corporate culture that respects and values differences, 11 (52%).

Successful in Recruiting, Hiring and Retaining Minority Employees

Successful in recruiting, hiring and retaining minority employees (76%) was the criteria most frequently mentioned by the study participants related to determining sensitive workplaces. They indicated that recruiting, hiring and retaining minority employees is one of the most visible means of determining a sensitive workplace that is likely to assist and support the successful school-to-work transition of minority youths. According to the study participants, recruitment practices need to be used to attract qualified minority job candidates for all levels of the organization. Once qualified minority employees are hired they need to be provided with advancement opportunities along with the support systems they may need to overcome barriers they may encounter. Further, the study participants believed that setting goals for recruiting, hiring and retaining of minorities demonstrates that the organization places value on minority employees, including minority youths, and provides a positive image for the company.

which in the future may assist the organization in more effectively hiring minority employees.

Minority Employees are Represented at all Levels of the Company

Minority employees are represented at all levels of the organization (67%) was another criteria that was frequently mentioned by the study participants. They stated that minority employees should be fully integrated into all levels of the organization including middle and upper level management positions. It is motivating for minority youth when they know that minority employees are promoted and hold high level positions in an organization. Companies with minorities in high level position are more willing to show minority youths all aspects of the business and not only the entry level positions. They are also more willing to expose them to the highest level within the company and to sit down and explain to them the educational requirements that is necessary to move up the ladder. According to the study participants, having minorities in senior-level management positions is one of the most important signs that the company is likely to assist and support in the successful transition of minority youth into the workplace. Not only are minority managers important role models for minority youth, but many times their individual efforts may help to shape and vitalize diversity activities that directly and indirectly assist in the successful transition of minority youth into the workplace.

Absence of Discrimination Lawsuits

Absence of discrimination lawsuits (62%) was another criteria that was frequently mentioned by the study participants. According to the study participants the number of discrimination lawsuits filed, including the number lost by the company, maybe a useful measure of how effective the company values and manages diversity. A closer, examination of those lawsuits to determine where they originated, and the nature of the complaint, may reveal the kinds of problems being solved or not solved in a company and whether the work environment is likely to be supportive of the school-to-work transition of minority youth.

Utilizes a Combination of Initiatives to Address Diversity

Utilizes a combination of initiatives to address diversity (57%) was also a criteria that was frequently mentioned by the study participants. According to the study participants, companies that utilize a combination of diversity initiatives to address the employees' needs, and strategically uses these initiatives as part of their organization systems and processes are more likely to be sensitive to the school-to-work transition issues of minority youth. Some initiatives mentioned by the study participants included: education and training programs intended to reduce stereotyping, increase cultural sensitivity, and develop skills for working in diverse work environments; mentoring programs that provide access to formal and informal networks; career development programs designed to promote constructive feedback to employees; outreach programs such as internships, scholarships, and partnerships with schools; and nontraditional work arrangements, such as flextime and home work stations. Organizations that openly honor differences and that go beyond race and gender issues are more likely to support and assist in the successful transition of minority youth into the workplace.

Corporate Culture that Respects and Values Differences

Presence of a corporate culture that respects and values differences (52%) was another criteria that was frequently mentioned by the study participants. According to the study participants a corporate culture that respects and values diversity is one that provides a better work environment for all employees regardless of their sex or ethnicity. This type of corporate culture involves increasing the consciousness and appreciation of differences associated with the heritage, characteristics, and values of many different groups, as well as respecting the uniqueness of each individual. It captures the unique contributions that everyone has to offer because his or her background, affiliations, talents, values, or other differences and is linked to the overall performance of the organization. A study participant stated that, "if a minority youths knows that the person supervising them wants to make their experience valuable and respects them as an individual, this makes their workplace experience more likely to be successful". Overall, the study participants indicated that companies that have work environments that respect and value differences are more likely to support and assist in the successful transition of minority youth into the workplace.

Discussion

It is important to note that the initiatives and factors identified in this study were derived from the perceptions and beliefs of a selected group of school-to-work partnership directors. Members of different groups (e.g., parents, students, business people) could have identified different initiatives and factors. Nonetheless, this study revealed a wide range of initiatives that assist and support the successful transition of minority youth into the workplace. The results of this study seem to indicate that minority youths' ability to succeed academically and in the workplace is contingent upon the types and quality of interventions that both the school and the workplace undertake. The study showed that successful initiatives are usually collaborative in nature, they have some type of work based input, are systemic and strategic in both planning and implementation. Work-based learning and an integrated and relevant school curriculum were initiatives that were mentioned by all participants.

This study revealed that work-based learning engages minority youths in practical experiences that bring value to their classroom learning. Minority youths become active experimenters and concrete learners; understand workplace culture and expectations; make informed career decisions; and learn to solve problems. This study showed that work-based learning opportunities such as job shadowing, apprenticeship, business/workplace tours, and internships, capitalize on relevancy, authenticity, and meaningfulness of the content and its learning environment. Although this study focused on initiatives that assist and support the successful transition of minority youth into the workplace, the literature shows that many of these initiatives may also assist and support non-minority youth (Ginzberg, 1980; Hamilton, 1990; Hudelson, 1994; Tiemeyer, 1993; Lerman, 1994). A 1995 report from the Congressional Office of Technology Assessment

reported that work-based programs such as youth apprenticeships are among the most promising ways of preparing young people for modern work responsibilities. Additionally, the report stated that youth apprenticeships help students see the relevance of academic studies to their later lives, aid their exploration of career options, foster desirable work habits, develop solid occupational skills and prepare young people to learn continuously while on the job. Work-based learning has continuously been identified as an initiative instrumental in the education of all youths (Hudelson, 1994; Lerman 1994; Office of Technology Assessment, 1995) This study also emphasized work-based learning as important, especially in the education of minority youths.

Diversity training was another initiative that was identified as important in supporting the successful transition of minority youth into the workplace. This study showed that cultural and other differences that minority youth bring to school and the workplace are important elements to consider in their academic and professional development. Burdette-Williamson (1996), and French (1996) purported that teachers and other adults who interact and work with minority youth need to be aware and sensitive to their cultural differences. This study similarly highlighted that school personnel and employers need to be cognizant of the cultural differences and their effects on the school and workplace performance of minority youth. This study found that diversity training is significant to providing awareness and the skills needed to work with and teach a diverse student population. Through diversity training school personnel and employers can obtain a better understanding of how they can create a conducive learning environment for minority youths.

This study revealed that mentoring, whether it be workplace or school based, if done well, can give impetus to the lives and school-to-work transition of minority youths. Mentoring was seen, in this study, as an initiative that can help minority youths with information accessibility, job networking, self-esteem, self-confidence and motivation. Mentoring can also foster the development of relationships and encourage minority youths to communicate their fears, and expectations. This study also disclosed that mentors who have knowledge of the mentee's language, culture, social background, and have the best interest of the mentee as central to their mentor role are likely to reach minority youths at a deeper level and at a quicker pace. Blechman (1992) in discussing mentors for high-risk minority youth recommended that communication skills and bicultural competence be weighted heavily when screening mentors. Rowe (1990) in describing the benefits of her mentoring program entitled, *Youth Activities Task Force,* reported that mentoring demonstrates that minority youths have true potential. While they might not have, she continues, material things, they have youth, vigor and enthusiasm. According to Rowe (1990), effective mentoring helps make minority youths less likely to get involved with drugs and gangs, instead it helps them to find employment, have self-respect and in general be an asset to their communities.

Career development was another recurrent initiative. The career development initiative was seen as essential to the future success of minority youths, especially those who face job inaccessibility, absence of a job network, and lack of basic skills. This study revealed that career development programs communicate to minority youths the importance of goal setting, hard work and determination. Fisher and Griggs (1995) reported in their career development study that generalizations from the dominant group

have created a limited and misguided view of the constructs that shape the career profiles of minority students. Similarly, this study found that implementation of a career development initiative is not only dependent on having well-trained, well-informed adults who know about careers and their relevant programs, but also need to understand minority youths from a cognitive, cultural, social, racial, and historical perspective. Additionally, Constantine, Erickson, Banks & Timberlake (1998) reported that for career development programs to be successful with minority youth they need to focus on both internal and external factors that may affect their occupational attainment, including socialization experiences, perceptions of career barriers and discrimination.

Training for school personnel was another frequently cited initiative. This study revealed that by school personnel receiving training in such areas as diversity, technology, instructional methods, mentoring, and workplace knowledge and skills they can create conducive learning environments at school and make meaningful contributions to the successful school-to-work transition of minority youths. This study disclosed that workplace internships, for example, can give teachers creative insight into workplace culture, skills, and systems. Farrell (1992), in discussing what teachers can learn from internships, reported that teachers who completed summer internships accentuated the non-scientific knowledge and skills that persons who work in industry need. The importance of teams, networking, interpersonal, communication, and problem-solving skills, among others, were identified

This study also revealed that parent involvement is crucial to the successful school-to-work transition of minority youth. Other studies (Aalborg, 1998; Deblieux, 1996; Lopez, 1998) have also found that parent involvement is important to the successful school-to-work transition of minority youth. According to Poczik (1995) providing minority parents with awareness of the school's various educational efforts and employing several involvement strategies, such as parents' school nights, facilitators who work with families at home, and training (e.g., literacy, language, computer) can enhance parent involvement. Similarly, this study revealed that school personnel need to employ innovative ways to help minority parents understand the importance of education and to help them become and remain involved because they are powerful players in the life of their children.

The results of this study on the criteria related to sensitive workplaces revealed that issues related to valuing and managing diversity were important in assisting and supporting the successful transition of minority youth into the workplace. An increasing amount of research literature suggests that organizations that support diversity enhance their overall performance (Carnevale & Stone, 1995; Catalyst, 1993; Cox, 1993; Fernandez, 1991; Morrison, 1992; Triandis & Bhawuk, 1994). The inevitability of a diverse workforce in American organizations suggests that organizations that support and that are sensitive to diversity will be best able to attract and retain the best available human resources. As minorities and other diverse groups become an increased share of available workers, it becomes more important for organizations to be successful in hiring and retaining workers from these groups.

The results of this study on criteria related to sensitive workplaces can be used for benchmarking within organizations. It can also aid in the self-reflective process

organizations use to assess their current status and assist them in developing strategic plans that address diversity within their organizations in order to better assist in the transition of minority youth into the workplace. The criteria related to sensitive workplaces identified in this study can also be used by minority youth who are selecting companies for employment, as well as by individuals who are involved in placing minority youth in work-basing learning sites. According to the study participants, companies that meet these criteria are more likely to assist and support the successful transition of minority youth into the workplace.

The initiatives and other factors identified in this study can help provide needed skills for minority youth, as well as combat against discriminatory practices. According to the study participants the initiatives that they identified can improve the employment prospects of minority youth who are making the transition into the workplace and provide them with better opportunities for advancement. Initiatives that provide awareness and knowledge about school and work, promote skill development, and which enhance interpersonal relationships among all individuals involved are invaluable. It is important to recognize the systemic, strategic relationship that exist among all initiatives in their efforts to foster a successful school-to-work transition for all minority youths.

References

Aalborg, A. E. (1998). Parental participation and healthy adolescent development: An empowerment approach for inner-city schools. Unpublished doctoral disseration, University of California, Berkeley.

Andress, H. J. (1989). Recurrent unemployment - the West German experience: An exploratory analysis using data models with panel data. European Sociological Review, 5, 275-297.

Constantine, M. G., Erickson, C. D., Banks, R. W., & Timberlake, T. L. (1998). Challenges to the career development of urban racial and ethnic minority youth: Implications for vocational intervention. Journal of Multicultural Counseling and Development, 26, 83-95.

Blechman, E. A. (1992). Mentors for high-risk minority youth: From effective communication to bicultural competence. Journal of Clinical Child Psychology, 21 (2), 160-169.

Bloomfield, W. M. (1989). Career beginnings: Helping disadvantaged youth achieve their potential. Bloomington, IN: Phi Delta Kappa Educational Foundation.

Bogdan, R. C., & Biklen, S. K. (1992). Qualitative research for education: An introduction to theory and methods. Boston: Allyn & Bacon.

Burdette-Williamson, P. (1996). The intercultural sensitivity of teachers in vocational family and consumer sciences and agricultural education. Journal of Vocational Education Research, 21 (1), 65-84.

Business-Higher Education Forum. (June, 1990). Three realities: Minority life in the United States. Washington, DC: Author.

Carnevale, A. P., & Stone, S. C. (1995). The American mosaic. New York: McGraw-Hill, Incorporated.

Catalyst. (1993). Successful initiatives for breaking the glass ceiling to upward mobility for minorities and women. U. S. Department of Labor. A Report on the Glass Ceiling Initiative. Washington, D. C.: U.S. Department of Labor.

Cox, T., Jr. (1993). Cultural diversity in organizations: Theory, research & practice. San Francisco: Berrett-Koehler Publishers.

Deblieux, E. M. (1996). The relationship between student achievement in schools with onwaed to excellence programs and selected variables. Unpublished doctoral disseration. University of Southern Mississippi, Mississippi.

Farrell, A. M. (1992). What teachers can learn from industry internships. Educational Leadership, 49 (6), 38-41.

Fernandez, J. P. (1993). The diversity advantage. New York: Lexington Books.

Finney, M. (1989). Planning today for the future's changing shape. Personnel Administrator, 34 (1), 44-45.

Fisher, T.A., & Griggs, M. B. (1995). Factors that influence the career development of African-American and Latino youth. Journal of Vocational Education Research, 95 (9), 57-54.

French, C. L. (1996). The relationship of intercultural sensitivity to extension agents' cross-cultural experiences and other factors. Unpublished master's thesis, Ohio State University, Columbus.

Gall, M. D., Borg, W. R., & Gall, J. P. (1996). Educational research (6th ed.). White Plains, NY: Longman.

Ginzberg, Eli. (1980). The school/work nexus: Transition of youth from school to work. Bloomington, Indiana: Phi Delta Kappa Educational Foundation.

Hammer, T. (1996). Consequences of unemployment in the transition from youth to adulthood in a life course perspective. Youth & Society, 27, 450 - 468.

Hamilton, S. F. (1990). Apprenticeship for adulthood. New York, NY: The Free Press.

Hill, R. B., & Nixon, R. (1984). Youth employment in American industry. New Brunswick, NJ: Transaction Books.

Hudelson, D. (1994). School-to-work opportunities: How vocational technical educators can tap the new federal legislation. Vocational Education Journal, 69 (3), 17, 18, 48.

Ihlanfeldt, K. R., & Sjoquist, D. L. (1993). Job accessibility and racial differences in youth employment rates. The American Economic Review, 80, 267-276.

Johnston, W. B., & Packer, A. E. (1987). Workforce 2000: Work and workers for the 21st century. Indianapolis, IN: Hudson Institute.

Kantor, H., & Brenzel, B. (1992). Urban education and the "Truly Disadvantaged": The historical roots of the contemporary crisis, 1945 - 1990. Teachers College Record, 94, 279 - 305.

Lerman, R. I. (1994). Reinventing education: Why we need the school-to-work initiative. Vocational Education Journal, 69 (3), 20, 21, 45.

Lopez, A. (1998). Effects of parent implemented intervention on the academic readiness skills of hispanic kindergarten children. Unpublished doctoral dissertation. Lehigh University, Bethlehem, PA.

Morrison, A. M. (1992). The new leaders: Guidelines on leadership diversity in America. San Francisco: Jossey-Bass Publishers.

Office of Technology Assessment. (1995). Learning to work: Making the transition from school-to-work. Washington, DC: U.S. Government Printing Office.

O'Hare, W. P. (1993). Diversity trend: More minorities looking less alike. Population Today, 21 (4), 1-8.

Poczik, R. (1995). Work-based education and school reform. In T. R. Bailey (Ed.). Learning to work: Employer involvement in school-to-work transition programs. (pp. 56-74). Washington, DC: The Brookings Institution.

Rowe, P. (1990). Volunteer mentors empower inner-city youths. Children Today, 19, 20-23.

Sarkees-Wircenski, M., & Wircenski, J. L. (1994). Transition programming for individuals from special populations. In A. J. Pautler (Ed.), High school employment transition: Contemporary issues (pp. 139 - 149). Ann Arbor, MI: Prakken.

Tiemeyer, P. E. (1993). Racial differences in the transition from school to stable employment among young men. Unpublished doctoral dissertation, Ann Arbor, Michigan.

Triandis, H. C. (1976). Variations in black and white perceptions of the social environment. Urbana: University of Illinois Press.

Triandis, H. C., & Bhawuk, D. P. (1994). Bridging the gap between theory and practice: A comparative study of current diversity programs (Final Report, Working Paper #2). University of Illinois Center for Human Resource Management, Champaign, IL.

Triandis, H. C., Kurowski, L. L., & Gelfand, M. J. (1994). Workplace diversity. In H. C. Triandis and M. Dunnette (Eds.), Handbook of industrial and organizational psychology (pp. 770-827). Palo Alto, CA: Consulting Psychologists Press.

U.S. Department of Education. (1998). School-to-work grantee list. Washington, DC:
National School-to-Work Office, U.S. Department of Labor.

U.S. Department of Education. (1997). Report to Congress: Implementation of the school-to-work opportunities act (pp. 9). Washington, DC: U.S. Department of Labor.

U.S. Bureau of Census. (1998). Age, sex, race, and Hispanic origin reports (pp. 2-3). Washington, DC: U.S. Department of Commerce.

U.S. Bureau of Census. (1996). Current population reports (pp. 1). Washington, DC: U.S. Department of Commerce.

OBSERVABLE TEACHING EFFECTIVENESS AND PERSONALITY TYPES OF SELECTED BEGINNING CAREER AND TECHNICAL EDUCATION TEACHERS

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Introduction and Theoretical Framework

It is universally accepted that the teacher is the most important component of education (Sikora, 1997). School improvement efforts and/or educational reform will most likely not happen until effective teachers are regarded as the most important entity. The current emphasis on educational reform in our nation's schools should be forcing us to examine the personality of effective teachers (Sikora, 1997). Personality is defined as all the relatively stable and distinctive styles of thought, behavior, and emotional responses that characterize a person's ability to adapt to surrounding circumstances (Maddis, 1976; Mischel, 1976). For the purpose of the study, personality type is defined as an identifiable pattern in the manner that an individual prefers to perceive and make judgments (McClain, 1987).

Personality Type Theory of Carl Jung

The Swiss psychologist, Carl Jung centered his theory of personality as a complex network of interacting systems that strive toward eventual harmony with oneself and one's environment. He believed that human behaviors, though seemingly random and unorganized, are really quite consistent and orderly, and are a function of different ways in which people prefer to use their perception and judgment (Myers, 1962). Perception was understood to be the ways people become aware of the environment, other people and occurrences, while judgment was considered the method employed by people to form conclusions about experiences perceived (Jung, 1933a).

According to Jung, both perception and judgment consist of two contrasting functions. The two functions of perception are sensing (S), which reflects the use of five senses to establish what exists, and intuition (N), the use of the unconscious as a way of indirectly perceiving through insight and associations that exists. The two functions are thinking (T), a decision making process utilizing an analytical, objective consideration of the situation, and feeling (F), a decision making process which includes heavy consideration to the personal or social values and merits of the situation.

Jung (1933b) further identified two complementary attitudes or orientations toward life. These he described as extraversion (E) and introversion (I). Extraversion is an attitude in which the person is oriented to the outer world of people and things. Introversion is an attitude in which the person is drawn to the inner world of thoughts and

ideas. Jung believed that the attitudes and the functions combine to affect how individuals relate to the world and to other people (McClain, 1987).

Studies have shown that individuals identified as having particular combinations of these functions, (E) or (I); (S) or (N); (T) or (F); exhibit predictable preferences toward certain occupational or academic choices (Kuder, 1968; Campbell & Hansen, 1981; Barrett, Sorensen &
Hartung, 1985).

The Work of Myers and Briggs

The implied importance of judgment and perception in the extensive writings of Jung (1921) lead Briggs-Myers and Myers (1962) to add these two preferences in the development of the Myers-Briggs Type Indicator (MBTI). As a fourth index of the MBTI, the two preferences of perception (P) and judgment (J) help to explain certain identifiable behaviors and attitudes toward the surrounding world (Myers & McCaulley, 1985). Individuals possessing a preference for judgment are concerned with making decisions either through logical, objective analysis (thinking-judgment), or through impassioned subjective appraisal (feeling-judgment) (Myers, 1980).

In all, there are sixteen type variables in the MBTI, each possessing its own unique qualities of personality. An individual's basic preferences can be identified by taking the MBTI. Once established, interpretive data could help promote a more constructive use of the differences among individuals (Kroeger & Thuesen, 1989). Each of the 16 types was written by combining the letters that identified the basic preference from each of the four indices (e.g., ESFJ, INTP).

Teaching Effectiveness

Over the last decade there has been an excess attention, rhetoric, and research on effective teaching and schools (Berry & Ginsberg, 1990). The findings of many research studies concerned with the effectiveness of teachers are ambiguous, and little is presently known for certain about teacher effectiveness (Barr, 1948; Berliner, 1985). Studies conducted by Marchant (1988) and Streifer and Iwanicki (1985) attempted to discover what competencies were necessary for effective teachers. Marchant's recommendations stated "educational researchers should be encouraged to continue their study of effective teaching behaviors" (p. 100).

Effective teaching requires that every student is offered the best possible chance to learn, regardless of the nature of their individual preference. Coker and Coker (1982), through extensive research, have identified certain key competencies which they have determined to be prerequisites to effective teaching, at any level. Topically, they are: "Instructional strategies, techniques and/or methods; communication with learners; and, learner reinforcement-involvement" (pp. 25-26). For the purpose of improving classroom

instruction, these competencies can be observed as a behavioral dimension of the teaching process. It has been shown that if these teacher behaviors are exhibited then learning outcomes will be enhanced.

For the purpose of this study, teaching effectiveness was operationally defined as the eighteen effectiveness scores given to each teacher (subject) and/or the one overall score as determined by the Classroom Observations Keyed for Effectiveness Research (COKER) instrument. Concerning ideas on teacher effectiveness research, Coker and Coker (1982) stated that:

> A basic justification for observation is the belief that the greatest potential for increasing pupil learning may be found in the process that goes on in the classroom: the interaction between teacher and pupils. If we know the behaviors that enhance pupil learning, we can increase the efficiency of teaching. (p. i)

Much of the discussion on teacher effectiveness behaviors can be summarized by work done by Cruickshank (1990). He organized the research on effective teacher behaviors from ten studies (Rosenshine & Frust, 1971; Dunkin & Biddle, 1982; Cruickshank, 1986; Medley, 1977; Gage, 1978; Borich, 1979; Good, 1979; Emmers & Evertson, 1982; Stallings, 1982; Potter & Brophy, 1988) into seven main clusters. They include: (1) teacher character traits, (2) what the teacher knows, (3) what the teacher teaches, (4) what the teacher expects, (5) how the teacher teaches, (6) how the teacher reacts to pupils, and (7) how the teacher manages the classroom.

To date, there are no studies focusing specifically on the personality and observable teaching effectiveness of beginning industrial and health occupations education teachers. As technology increases, teachers must be effective in preparing students for their future roles. The secondary classroom teacher, and the competencies that teacher exhibits, plays a central role in the education of our youth. This is true for trade and industrial and health occupations education teachers in preparing their students for selected careers. Because the classroom teacher maintains such a central and dominant position in the learning process, educational administrators and teacher educators are continually attempting to better understand that process, with the ultimate goal to improve teaching effectiveness. It was within this context that the present research study was undertaken.

Purpose and Research Questions

The purpose of this study was to examine the relationship between personality types, as measured by the Myers Briggs Type Indicator (MBTI) Form G (Myers & McCaulley, 1985), and teaching effectiveness, as measured by the Classroom Observation Keyed for Effectiveness Research (COKER) (Coker & Coker, 1988) of selected beginning industrial and health occupations education teachers. The specific research questions of the study were as follows:

1. What is the personality profile and characteristics of selected beginning industrial and health occupations education teachers?
2. What is the level of teaching effectiveness of selected beginning industrial and health occupations education teachers?

3. What is the relationship between teachers' continuous scores on the EI, SN, TF, and JP personality type dimensions and their COKER scores?

Limitations of the Study

The findings of this study may not be representative of all beginning trade and industrial and health occupations education teachers. Caution should be exercised when generalizing the findings of this study to career and technical education teachers in general.

The sample (n = 22) studied was as large as could be justified in light of geographic and budgetary restrictions. Assessment of personality was limited to Jungian personality theory as measured by the Myers Briggs Type Indicator. The measurement of teaching effectiveness was limited to the eighteen competencies identified by Coker (1988).

Methodology

A correlational design was used for conducting this study. A low inference observation instrument (COKER) along with a questionnaire (MBTI) was utilized to gather quantitative data.

Population and Sample

The target population for this study consisted of all beginning (N = 34) secondary industrial and health occupations education teachers employed by the West Virginia Department of Education during the 1997-1998 school year. A nonprobability sample (n = 22) of industrial and health occupations education beginning high school teachers were purposefully selected. The primary decision to select 22 instead of 34 subjects was based on accessibility. All 22 teachers agreed to participate in the study.

Instrumentation

Two data collection instruments were utilized with each teacher. The questionnaire instrument was the MBTI Form G (Myers & McCaulley, 1985) which was administered to each teacher to determine their personality type. Teaching effectiveness data were determined by the Classroom Observations Keyed for Effectiveness Research (COKER) instrument (Coker & Coker, 1988).

1. Myers-Briggs Type Indicator

   The MBTI is a 126-item forced choice questionnaire designed to elicit an individual's preference on four dichotomous scales or dimensions which allow separate indices for the four basic preferences of extraversion (E) or introversion (I), sensing (S) or intuition (N), thinking (T) or feeling (F), and judging (J) or

Perception (P) (Foster & Horner, 1988; Myers & McCauley, 1985; Plessman, 1985; Schultz, 1985; Vogt & Holder, 1988).

Validity. Construct validity of the MBTI has been investigated by several researchers. Carlyn (1977) reports that numerous correlational studies indicate that "... a wealth of circumstantial evidence has been gathered and results appear to be quite consistent with Jungian Theory" (p. 469).

Reliability. Myers and McCaulley (1985) reported that reliability tends to remain stable up to twenty-five omissions for From G. According to Myers and McCaulley (1985), correlations of continuous scores from ten studies with intervals from four to five weeks produced reliability coefficients of .77 to .93 for EI, .78 to .92 for SN, .56 to .91 for TF, and .63 to .89 for JP.

2. Classroom Observations Keyed for Effectiveness Research

Validity. Medley, Coker and Soar (1984) suggest that content validity may be derived from three separate sources: expert consensus, theory, and research. The eighteen competencies used to determine teaching effectiveness was an outgrowth of these sources. Using the collective judgment of experts familiar with classroom observation, Coker synthesized a list of teaching competencies from five recognized observation instruments. These were the OSCAR 5V (Medley, 1973); STARS (Spaulding, 1976a); FLAACS (Soar, Soar, and Rogosta, 1971), TPOR (Brown, 1970); and CASES (Spaulding, 1976b). The result of this synthesis was the development of the COKER (Classroom Observations Keyed for Effectiveness Research). By using the COKER, teacher behaviors having a positive effect on student learning can be keyed into selected competencies to give a profile of the teacher's performance. The COKER instrument is intended to be administered only by specifically trained observers. In order to secure and use the COKER instrument one must be trained, then secure copyright permission. The principal researcher attended a two-day private training by Dr. Doris Sikora at Western Kentucky University.

Reliability. Standardized items on the COKER are combined into a score based on a predetermined key. An item may contribute positively or negatively in a specific key, and an item may be used in more than one key. These key scores are then standardized across all classes to a distribution with a mean of 50 and a standard deviation of 10, using the scores for all classes being scored. This transformation eliminates negative scores and permits comparisons to be made between individual teachers on a single key, or between groups of teachers on a single key, or between two or more keys for a single teacher or a group of teachers. Reliability coefficients for scoring keys reported by Coker and Coker (1982) ranged from .384 to .834 (p.33). Medley, Coker, and Soar (1984) cite low reliability coefficients as the most serious drawback to single-item scores.

Inter-observer reliability for the observers was calculated by obtaining an observer agreement score. This was done by having the two trained observers (the principal researcher and an assistant) practice using the COKER instrument while viewing videotapes of teachers teaching, until reaching an inter-observer agreement rate ranging from 67 to 90%. The trained observers' inter-observer agreement was then pilot

tested in two schools. The two trained observers observed and recorded six COKER instruments each. The inter-observer reliability coefficient was .62. Dickson and Wiersma (1984) reported that reliability estimation remains a problem when dealing with measurement through observation, not only empirically but also theoretically, as to which procedures are most applicable.

Data Collection

The MBTI was administered during the 1998 Summer Workshop for Beginning Career Technical Education Teachers. Three regional teacher educators and the department chair in technical education from West Virginia University Institute of Technology were responsible for administration of the MBTI. Results were returned along with an interpretation of individual participant results provided by a certified MBTI interpreter.

Data collection utilizing the COKER instrument took place during Fall of 1998. After securing verbal permission from the regional teacher educators to visit each teacher's classroom, the researchers contacted teachers by phone. Teachers were requested to conduct a normal class period during the observational time. Medley, Coker, and Soar (1984) suggest that "upon entering the classroom, move to a position which will enable you to clearly observe the transactions and/or interactions among the teacher and students, remaining as unobtrusive as possible" (p. 246).

The COKER instrument is divided into Section A and Section B. Section A consists of a matrix of numbered cells designating specific teacher and student transactions and/or interactions. The matrix is designed to accommodate one 5-minute observation. Section B is designed to record specific student and/or teacher cognitive and affective behaviors as well as teaching strategies which occurred during the previous 5 minutes. These behaviors may or may not be interactions. The total observation time per visit is 10 minutes; however, total time in classroom for one visit should be approximately 20-25 minutes (Medley, Coker, & Soar, 1984).

The researcher/trained observer and the assistant/trained observer made a total of six separate observations each during the two visits, totaling 12 observational records per teacher. For highly reliable scores, Sikora (1997) recommends three or more observations per visit, per observer. Confidentiality was assured and maintained throughout the study. The data were sent to Dr. Leverne Barrett at University of Nebraska for scoring (the only facility with an active scoring program for the COKER instrument).

Data Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS Version 8.0 for Windows). Descriptive statistics were used to describe the distribution of the data. Correlation coefficients were interpreted utilizing Davis (1971) descriptors

(negligible = .00 to .09; low = .10 to .29; moderate = .30 to .49; substantial = .50 to .69; very strong = .70 to 1.00). Sax (1997) supports the computation of correlations from at least 15 cases. However, according to Sax (1997), correlations computed from less than 15 cases need to be interpreted with caution.

The MBTI measure provides a research score for each of the four preferences, plus a dichotomous classification. Eight score keys are used, and the score for each dimension is based on the difference in points between preferences for one or the other dimension. To determine the preference score, the researcher must compute the difference between the points, and then compare that number to the conversion table in the 1985 manual for preference scores and continuous scores.

When conducting correlational research it is useful to treat the dichotomous preference scores as if they were continuous scales. Continuous scores are a linear transformation of preference scores, using the following conversion:

- For E, S, T, or J preference scores, the continuous score is 100 minus the numerical portion of the preference score.

- For I, N, F, or P preference scores, the continuous score is 100 plus the numerical portion of the preference score (Myers & McCaulley, 1985)

Results

Demographic Information

The respondents were 50% male and 50% female. Trade and industrial education teachers accounted for 63.6% of the sample. From this sample of trade and industrial and health occupations education teachers, slightly less than one-third (31.8%) had completed a bachelor's degree and higher. Teachers with an associate degree or less, represented slightly more than two-thirds (68.2%) of the sample. The mean age of respondents was 38.68 (SD = 6.28) years. Respondents in this study indicated that they had some work experience prior to teaching (M = 14.63 years, SD = 6.87).

Personality Type Profiles of Respondents

Table 1 describes the personality type profiles of respondents. A high percentage (27.3%) of teachers preferring extraversion, sensing, thinking, and judgment (ESTJ) were found in the sample, along with a high percentage of extraversion, sensing, feeling, and judgment (ESFJ) type teachers (18.2%). Over 10% of the sample had a preference for introversion, sensing, feeling, and judgment (ISFJ).

Table 1.

Personality Type Profiles of Respondents (N = 22)

MBTI Type	N	%
ESTJ	6	27.3
ESFJ	4	18.2
ISFJ	3	14.0
INTP	2	9.0
ISTJ	2	9.0
ENTP	2	9.0
ENFJ	1	4.5
ENTJ	1	4.5
ISTP	1	4.5

Note. E = Extraversion, I = Introversion, S = Sensing, N = Intuition, T = Thinking, F= Feeling, J = Judgment, P = Perception.

Level of Teaching Effectiveness by Personality Types

The ISFJ personality type accounted for 14% of the respondents that scored above the mean (51.98) on the COKER. ESTJ and ESFJ personality types comprised 45.5% of the respondents that scored below the mean (49.21-44.74) on the COKER. The ENTP personality type (9%) had the highest COKER competency score (M = 56.42) as revealed by Table 2.

Table 2.

Profiles of Personality Characteristics (MBTI) and COKER Teaching Effectiveness Competency Scores of Respondents (N = 22)

MBTI Type	COKER Competency Score [a]
ENTP	59.64
ESTJ	58.09
ENFJ	56.36
INTP	55.46
ENTJ	53.68
ISFJ	53.48
ENTP	53.20
ISFJ	52.41
INTP	52.40
ISTJ	52.01
ISFJ	50.06
ESTJ	49.58
ESTJ	48.18
ESTJ	47.75
ESTJ	47.17
ISTP	46.25
ESFJ	46.13
ESFJ	45.36
ESFJ	44.74
ESTJ	44.50
ESFJ	42.75
ISTJ	40.84

Note. [a] The fixed mean of the COKER is 50 with a standard deviation of 10.
Total mean COKER teaching effectiveness competency scores of MBTI types: ENTPs = 56.42; ENFJ = 56.36; INTPs = 53.93; ENTJ = 53.68; ISFJs = 51.98; ESTJs = 49.21; ISTJs = 46.42; ISTP = 46.25; ESFJs = 44.74.

Teacher Effectiveness Competencies

Each of the 18 competencies is listed in Table 3. As a group, respondents reported the highest mean score of 49.63 (Mdn = 50.50, SD = 10.24) on competency 5. Teachers had a mean score of 49.59 on competencies, 3, 4, and 16. Competency 9 accounted for the lowest mean score (49.36). Teaching effectiveness of respondents was also below average (49.45) on competencies 12, 15, and 18.

Table 3.

Profiles of Respondents Across 18 Teaching Effectiveness Competencies (N = 22)

Teaching Effectiveness Competency Statement	Maximum	Minimum	Mode	Mdn	M[a]	SD
1. Uses a variety of instructional strategies.	72	31	(48) (57)	49.50	49.50	10.22
2. Demonstrate patience, empathy and understanding.	71	34	44	45.50	49.50	10.31
3. Monitors student understanding and re-teaches.	84	34	48	49.50	49.59	10.19
4. Provides practice and review for students.	69	32	44	48.50	49.59	10.19
5. Create positive classroom environment.	66	27	49	50.50	49.63	10.24
6. Assist students in discovering and correcting errors and inaccuracies.	89	39	48	48.00	49.54	10.34
7. Teacher stimulates students' interest.	75	31	(48) (51)	49.50	49.54	10.26
8. Uses a variety of sensory materials.	79	36	55	49.50	49.54	10.34
9. Uses a variety of cognitive levels in strategies of questioning.	80	35	(39) (40) (43) (46) (48) (55)	47.00	49.36[b]	10.23

(table continues)

Table 3. (continued)

Teaching Effectiveness Competency Statement	Maximum	Minimum	Mode	Mdn	M*	SD
10. Provides opportunities for successful experience by students.	69	34	35	51.50	49.50	10.22
11. Uses convergent and divergent inquiry strategies.	81	35	51	48.50	49.54	10.23
12. Demonstrates proper listening skills.	72	33	47	47.00	49.45	10.31
13. Maintains an environment in which students are actively involved.	72	33	47	47.50	49.54	10.24
14. Encourages students to ask questions.	83	36	(43) (45) (47) (48)	47.00	49.54	10.28
15. Provides positive feedback to students on their performance.	67	31	(46) (52)	49.00	49.45	10.12
16. Develops and demonstrate problem solving skills.	74	33	(40) (46) (48) (51)	48.00	49.59	10.26
17. Given clear directions and explanations.	70	27	54	52.00	49.54	10.17
18. Implement an effective classroom management system for positive behaviors.	65	29	(48) (51) (55) (57)	51.00	49.45	10.29

Note. *The fixed mean of the COKER is 50 with a standard deviation of 10.
( ) Multiple modes exist.

Relationships Between Teaching Effectiveness COKER Scores and MBTI

Continuous Scores

The relationships between teaching effectiveness COKER score and MBTI continuous scores are illustrated in Table 4. It was found that selected teaching

effectiveness competencies (1, 5, 6, 7, 8, 10, 13, and 16) were positively and significantly related to scores on the SN type. Competency 13 accounted for the strongest correlation coefficient on the SN type ($r = .65$, $r^2 = .4225$). Competency 3 accounted for a positive and significant relationship on the JP type ($r = .46$, $r^2 = .2116$).

Table 4.

Correlation Coefficients Between Teaching Effectiveness COKER Scores and MBTI Continuous Scores of Respondents (N = 22)

Teaching Effectiveness Competency Statement	MBTI Temperament Type			
	EI	SN	TF	JP
1. Uses a variety of instructional strategies.	.03	.57*	.11	.37
2. Demonstrate patience, empathy and understanding.	.10	-.04	-.01	.07
3. Monitors student understanding and re-teaches.	.05	.35	-.16	.46*
4. Provides practice and review for students.	.01	.36	-.25	.29
5. Create positive classroom environment.	-.18	.52*	-.24	.22
6. Assist students in discovering and correcting errors and inaccuracies.	-.01	.43*	-.10	.31
7. Teacher stimulates students' interest.	-.03	.50*	.39	.08
8. Uses a variety of sensory materials.	-.15	.54*	.06	.33
9. Uses a variety of cognitive levels in strategies of questioning.	.05	.27	.01	.31
10. Provides opportunities for successful experience by students.	.06	.57*	.01	.39
11. Uses a variety of cognitive levels in strategies of questioning.	.16	.30	.25	.13

(table continues)

Table 4. (continued)

Teaching Effectiveness Competency Statement	MBTI Temperament Type			
	EI	SN	TF	JP
12. Demonstrates proper listening skills.	.03	-.01	-.01	.14
13. Maintains an environment in which students are actively involved.	.10	.65*	.19	.29
14. Encourages students to ask questions.	.35	-.23	.01	-.01
15. Provides positive feedback to student on their performance.	-.02	-.16	-.30	.21
16. Develops and demonstrate problem solving skills.	-.04	.57*	-.04	.38
17. Given clear directions and explanations.	.01	.37	.10	.19
18. Implement an effective classroom management system for positive behaviors.	-.04	.23	-.14	.08

[a]Components of MBTI temperament type: EI = Extraversion, Introversion; SN = Sensing, Intuition; TF = Thinking, Feeling; JP = Judgment, Perception.
*$p < .05$.

Discussion and Conclusions

From this sample of trade and industrial and health occupations education teachers, slightly more than one-fifth (22.7%) had completed a bachelor's degree. This finding suggests that a majority of the respondents in this study lacked a 4-year college preparation. The fact that trade and industrial teachers in particular, have less formal education and more occupational experience than others has been at issue for some time. There is controversy about whether trade and industrial teachers, or any teachers should be able to teach in public schools without a college degree (NAVE, 1994).

Nine of the 16 personality types were represented in this study. The three dominant MBTI personality types in this study: ESTJ, ESFJ, and ISFJ accounted for 59.5% of the respondents. Preference for ENFJ, ENTJ, and ISTP was low. A majority of the respondents reported a preference for ESTJ. Myers (1962) cites the following estimates of type in the general population: seventy-five percent of the general population prefer an extraverted orientation. Three-fourths (75%) of the general population report a sensing preference; the general population is divided evenly between a preference for

thinking (50%) and feeling (50%). About 55-60% of the general population report a preference for judging.

As type theory would suggest, it seems that ESTJ type teachers are attracted to the practical skills (Keirsey & Bates, 1984; Myers & McCaulley, 1985). This finding is consistent with previous studies (Barrett, 1991, McClain & Horner, 1988). Overall, the MBTI components judgment (J), extraversion (E), Sensing (S), and thinking (T) were the most predominant characteristics within the sample.

ISFJ type teachers scored above the mean on the COKER. ISFJ type accounted for over 33% of the effective teachers in this study. This finding supports the theory that ISFJs focus on what people need and want, and that they work with steady energy to complete jobs fully and on time. ISFJs respect established procedures and authority, believing that these have persisted because they function well. Therefore, they will support change only when new data show it will be of practical benefit to people (Myers & McCaulley, 1985).

ESTJs and ESFJs respondents scored below the mean on the COKER. This finding indicates that these teachers accounted for over three-quarters (76.92%) of the less effective teachers in the study. According to Myers and McCaulley (1985), if ESTJs and ESFJs do not find a place where they can use their gifts and be appreciated for their contributions: they usually feel frustrated and may become rigid and dogmatic, worry and feel guilty, become intrusive, "know-it-all" experts, overpowering others and refusing to listen.

ISTP and ISTJs respondents also scored below the mean on the COKER. Myers and McCaully (1985) suggested that: "Sometimes life circumstances have not supported ISTPs and ISTJs in the development and expression of their Sensing and Thinking preferences" (pp. 23, 27). If they've not developed their Sensing, ISTPs many have no reliable way of getting accurate data about the external world or of translating their thoughts into action. If they've (ISTPs) not developed their Thinking, they may get caught up in the realities around them and not take time to do the internal logical processing they need to make good decisions. On the other hand, if ISTJs have not developed their Sensing, they may rush into premature judgments and actions without considering new information. If they've not developed their Thinking, ISTJs may not have reliable ways for dealing with the world and instead may be preoccupied with their internal memories (Myers & McCaulley, 1985).

Overall, the data indicate that 41% of the respondents in this study were effective teachers as revealed by their scores on the COKER. As a group, the respondents scored below the mean on the 18 COKER competency statements. This finding suggests that these teachers have not mastered a variety of essential teaching competencies necessary for learning to take place effectively. The low scores on the COKER were probably attributed to lack of state certification, and not having a degree in education/teaching.

Eight of the 18 teaching effectiveness competency statements had significant and positive relationships with the SN temperament type. The data indicate that 42.25% of

the variance of competency 13 could be predicted from the SN temperament type. The data also suggest that 21.16% of the variance of competency 3 could be predicted from the JP temperament type. In summary, the SN temperament type was the best predictor of teaching effectiveness when compared with EI, TF, and JP temperament types. Consistent with research on observable teacher effectiveness, Sikora (1997) reported a significant correlation for competency 7 on the SN temperament type. The study consisted of 20 family and consumer sciences secondary teachers. The analysis also showed that there was a significant relationship with the sensing vs. intuitive (SN) personality type dimension on the total teaching effectiveness scores.

Implications

This research should not be interpreted to exclude any personality type from pursuing a career as a secondary trade and industrial or health occupations education teacher, rather it should provide some understanding and realization that each type contributes in its own unique way. The challenge for teacher educators, career and technical education administrators, and teachers is to better understand and appreciate the implications of personality theory and to translate that understanding into practice.

This study showed that systematic observations could have an important role to play in further research on teacher effectiveness. An outcome of this study was an individual profile for each teacher. This profile, hopefully, will be used by teachers to plan school-based inservice programs which address the needs identified through the observations.

Recommendations

1. Career and technical education administrators need to recruit and encourage more qualified individuals to enter the profession.
2. West Virginia Department of Education personnel should assess the credentials of beginning career and technical education teachers on an ongoing basis.
3. Inservice and preservice providers should structure workshops to address diverse strengths and weaknesses of beginning industrial and health occupations education teachers. Emphasis on the following teaching effectiveness competency statements should be included:
   - uses a variety of cognitive levels in strategies of questioning;
   - demonstrates proper listening skills;
   - provides positive feedback to students on their performance; and
   - implementation of an effective classroom management system for positive behaviors.
4. Replication of this study should be conducted to include all content areas of career and technical education. This should include a larger sample size with observations made over a longer period of time.

References

Barr, A. S. (1948). The measurement and prediction of teacher efficiency: A summary of investigations. Journal of Experimental Education, 16, 202-283.

Barrett, L. A. (1991, July). Relationship of observable teaching effectiveness behaviors to MBTI personality types. Paper presented at the 9th International Conference for Psychological Type. Richmond, VA. (ERIC Document Reproduction Services No. ED 336 357)

Barrett, L. E., Sorensen, R. C., & Hartung, T. E. (1985). College of agriculture MBTI program (Unpublished report available through the Institute of Agriculture and Natural Resources Dean's office). Lincoln: University of Nebraska.

Berliner, D. C. (1985). Effective classroom teaching: The necessary but not sufficient condition for developing exemplary schools. In G. R. Astin & H. Garber (Eds.), Research on exemplary schools. (pp. 127-155). Orlando, FL: Academic Press, Inc.

Berry, B., & Ginsberg, R. (1990). Effective schools, teachers, and principals: Today's evidence, tomorrow's prospects. In B. Mitchell & L. Cunningham (Eds.), Educational leadership and changing contexts of families, communities, and schools. Yearbook of the National Society for the study of Education. 89, Part II (pp. 155-183). Chicago, IL: University of Chicago Press.

Borich, G. (1979). Implications for developing teacher competencies from process-product research. Journal of Teacher Education, 30, 77-86.

Brown, B. (1970). Experimentalism in teaching practice. Journal of Research and Development in Education, 4, 14-22.

Carlyn, M. (1977). An assessment of the Myers-Briggs Type Indicator. Journal of Personality Assessment, 41, 576-599.

Campbell, D. P., & Hansen, J. C. (1981). Manual for the SVIB-SCII Strong – Campbell Interest Inventory (3rd Ed.). Stanford, CA: Stanford University Press.

Coker, H., & Coker, J. (1988). Classroom observations keyed for effectiveness research (COKER). Atlanta: Georgia State University.

Coker, H., & Coker, J. (1982). Classroom observations keyed for effectiveness research (COKER). Observer training manual. Atlanta: Georgia State University.

Cruickshank, D. R. (1990). Research that informs teachers and teacher educators. Bloomington, IN: Phi Delta Kappa Educational Foundation. (ERIC Document Reproduction Service No. ED 325 476)

Cruickshank, D. R. (1986). Profile of an effective teacher, Educational Horizons, 64, 80-86.

Davis, J. A. (1971). Elementary survey analysis. Englewood, NJ: Prentice-Hall.

Dickson, G. E., & Wiersma, W. (1984). Research and evaluation in teacher education: Empirical measurement of teacher performance. Toledo, OH: The University of Toledo.

Dunkin, M. J., & Biddle, B. J. (1982). The study of teaching. New York, NY: Rinehart & Winston.

Emmers, E. T., & Evertson C. M. (1982). Synthesis of research on classroom management. Educational Leadership, 38, 342-347.

Foster, R. M., & Horner, J. T. (1988). National profile of agricultural teacher educators and state supervisors of vocational agriculture by MBTI preference type. Journal of the American Association of Teacher Educators in Agriculture, 29 (3), 20-27.

Gage, N. L. (1978). The yield of research on teaching. Phi Delta Kappan, 60, 229-235.

Good, T. L. (1979). Teacher effectiveness in the elementary school. Journal of Teacher Education, 30, 52-64.

Jung, C. G. (1921). Psychological types. Princeton, NJ: Princeton University Press.

Jung, C. G. (1933a). Modern man in search of soul. New York: Harcourt and Brace.

Jung, C. G. (1993b). Psychological types. New York: Harcourt and Brace.

Keirsey, D., & Bates, M. (1984). Please understand me: Character and temperament types (4th ed.). DelMar, CA: Prometheus Nemesis.

Kroeger, O., & Thuesen, J. M. (1989). Type talk. New York, NY: Bantam Doubleday Dell Publishing Group, Inc.

Kuder, G. F. (1968). Kuder occupational interest survey: Manual. Chicago: Science Research Associates, Inc.

Maddis, S. (1976). Personality theories: A comparative analysis (3rd ed.). New York: Holt, Rinehart & Winston.

Marchant, G. J. (1988). Attitudes toward research-based teaching behaviors. (Doctoral disertation, Northwestern University, 1988). Dissertation Abstracts International, 49, 2091A.

McClain, C. R. (1987). The relationship between personality characteristics and teaching effectiveness of secondary vocational agriculture teachers. Unpublished doctoral dissertation, University of Nebraska, Lincoln.

McClain, C. R., & Horner, J. T. (1988, February). Vocational agriculture teacher personality and effective teaching: Is there a relationship? Paper presented at the 42nd Central States Annual Research Conference in Agricultural Educational Proceedings, Chicago, IL. (ERIC Document Reproduction Service No. ED 290 868)

Medley, D. M. (1977). Teacher competence and teacher effectiveness: A review of process-product research. Washington, D. C.: American Association of Colleges for Teacher Education.

Medley, D. M. (1973). Observation schedule and record, Form 5 Verbal. Charlottlesville: University of Virginia.

Medley, D. M., Coker, H. and Soar, R. (1984). Measurement-based evaluation of teacher performance: An empirical approach. New York: Longman.

Mischel, W. (1976). Introduction to personality (3rd ed.). New York: Hort, Rinehart & Winston.

Myers, I. B. (1962). Myers-Briggs Type Indicator manual. Palo Alto, CA: Consulting Psychologists Press.

Myers, I. B. & McCaulley, M. H. (1985). Manual: A guide to the development and use of the Myers-Briggs Type Indicator. Palo Alto, CA: Consulting Psychologists Press.

Myers, I. B. (1980). Gifts differing. Palo Alto, CA: Consulting Psychologists Press.

National Assessment of Vocational Education (NAVE) (1994). Final report to Congress volume II: Participation in and quality of vocational education. Washington, D. C.: Office of Educational Research and Improvement, U. S. Department of Education.

Potter, A., & Brophy, J. (1988). Synthesis of research on good teaching. Educational Leadership, 45, 76-85.

Plessman, C. K. (1985). The relationship between personality characteristics and job satisfaction of secondary marketing education teachers. (Doctoral dissertation, University of Nebraska, Lincoln, 1985). Dissertation Abstracts International, 47, 2345.

Rosenshine, B., & Furst, N. (1971). Research on teacher performance criteria. In B. O. Smith (Ed.), Research in teacher education. Englewood Cliffs, NJ: Printice-Hall.

Sax, G. (1997). Principles of educational and psychological measurement and evaluation (4th ed.). Belmont, CA: Wadsworth Publishing Company.

Schultz, A. E. (1985). Temperaments and learning styles in industrial education students: A correlational study. Unpublished doctoral dissertation, University of Nebraska, Lincoln.

Sikora, D. A. (1997). Observable teacher effectiveness and personality types of family and consumer sciences teachers. Unpublished doctoral dissertation, The University of Tennessee, Knoxville.

Soar, R. S., Soar, R. M. & Rogosta, M. (1971). Florida climate and control system (FLACCS): Observer's manual. Gainesville, FL.: Institute for the Department of Human Resources, University of Florida.

Spaulding, R. L. (1976a). Spaulding teacher activity rating schedule (STARS). San Jose, CA: San Jose State University.

Spaulding, R. L. (1976b). A category system and an interpretation analysis system (STARS/CASES) in relation to teacher competencies. Paper presented at the annual meeting of the American Educational Research Association.

Stallings, J. A. (1982). Effective strategies for teaching basic skills. In I. Gordon (Ed.), Developing basic skills programs in secondary schools. Alexandria, VA: Association for Supervision and Curriculum Development.

Streifer, P. A., & Iwanicki, E. F. (1985). The validation of beginning teacher competencies in Connecticut. Chicago: IL. Paper presented at the Annual Meeting of the American Educational Research Association. (ERIC Document Reproduction Services No. 265 148)

Vogt, G., & Holder, B. H. (1988, Fall). Myers-Briggs type indicator personality characteristics of business teacher education majors. NABTE Review, 15, 39-41.

EFFECT OF SCHOOL SIZE AND LEADERSHIP ON SCHOOL-TO-WORK PROGRAMMING

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Introduction

A series of national research reports beginning in the late 1980s raised serious doubts about the ability of the American education system to provide the required skills for the current work world without substantial reform. (See, for example, Commission on the Skills of the American Workforce, 1990 and William T. Grant Foundation Commission on Work, Family, and Citizenship, 1988.) According to these studies, too many students leave school without the academic knowledge, personal qualities, and/or job specific know-how needed to establish themselves quickly in stable, full-time employment with reasonable earning potential. This lack of fit between the world of school and the world of work jeopardizes not only the economic future of many of our young people but also that of the nation as a whole. The school-to-work (STW) movement is best understood as a response of the American education system to this set of problems.

Purpose of the Study

Within this larger context, th purpose of the research project described here is to analyze the way in which individual schools across the country have responded to the call for school-to-work programming. The study is based primarily on data from a national sample of public comprehensive high schools collected as part of the U.S. Department of Education's National Education Longitudinal Survey of 1988 (NELS:88). Included in the NELS:88 database are a set of school-level indicators of STW programming. Using these indicators in conjunction with various school and community characteristics from NELS and other sources, we seek to explain why some high schools are more involved in STW activities than others. Ultimately, our goal is to inform the national education policy process concerning the way in which broad initiatives like STW are (or are not) implemented at the local level where the nation's education actually takes place. This in turn should have implications for the design of future federal and state education legislation.

Earlier Studies

A small literature on school- and district-level resource allocation and decision making has emerged over the past two decades, primarily focusing on public schools. Interest in the subject has increased in recent years as a result of efforts to decentralize educational decision making and, more generally, to make schools accountable for the funds they receive from taxpayers. Roughly speaking, this literature can be broken into three parts.

One line of research has focused on alternative models of school and district decision making and has sought to determine which models most accurately describes how decisions are (or should be) made in the "real world" (Monk, 1981; Jones, 1985; Hartman, 1988; Chichura, 1989; Ferris,1992). An important conclusion flowing from this work is that local education authorities use a variety of criteria in making resource allocation decisions and that these tend to reflect the diverse constituencies which they serve. A number of authors also note that decisions made at lower levels in the educational system are not necessarily consistent with the goals and objectives established at higher levels.

A second line of research traces the flow of money in the education system from the district to the school and then, in some cases, down to the individual program, classroom, or activity (Odden et al., 1995; Nakib, 1996; Tetreault et al., 1996). Budget data at each level are typically broken down in several different ways: by object (wages and salaries, materials, etc.); by function (instruction, administration, etc.); and by program (regular instruction, special education, etc.) The focus of the research is usually on how the shares of the total budget devoted to the different object, function, and program categories vary across districts or schools. A key finding from this work is that there is little variation in these shares from one district to another or from one school to another. Big city school districts, for example, spend about the same proportion of their total education budget on instruction as much smaller suburban and rural districts do.

The third line of research can be interpreted as to some degree combining and extending the first two. Its main objective is to find systematic relationships between the social, political, organizational, and/or economic circumstances of schools or districts and their resource allocation decisions (Haller et al., 1990; Ingersoll, 1996; Monk, 1987; and Monk & Haller, 1992). The present study shares methodological features with these studies, which are based on regression analyses of school-level data from large-scale national surveys of students, teachers and school administrators.

Data

The data to be used in this research are derived from multiple sources. The most important of these, as noted above, is the NELS:88 longitudinal study. The NELS:88

project began with a national sample of over 25,000 eighth grade students drawn from approximately 4,000 public and private schools in 1988 (base year). A subsample of these students (along with some additional students) were resurveyed in 1990, 1992, and 1994 (first, second, and third follow-ups). In the base year, first follow-up, and second follow-up, school administrators were surveyed as well. They were asked to provide information about school characteristics, student characteristics, teaching staff characteristics, school admission policies and practices, grading and/or testing structure, school programs, and school climate. Questions pertaining to STW programs and services were included in several sections of the questionnaire. Our research draws most heavily on data from the second follow-up school administrator survey with the unit of analysis being the individual school. After eliminating private and specialty public schools, the sample consists of 1144 comprehensive public high schools.

Conceptual Framework

Our research program is based on a model which take the school as the decision making unit whose behavior is to be analyzed. The dependent variables is a measure of school involvement in STW programming. We hypothesize that the extent of a school's involvement in STW programming depends on a variety of internal and external factors. We classify these influences into four groups: school characteristics, student characteristics, community characteristics, and regional characteristics. In our estimations, each of these groups is represented by a set of independent variables.

School Characteristics

We anticipate that a school's commitment to STW programming will depend in part on its organizational and structural characteristics. Some potentially important factors are the number of pupils, grade structure, curriculum options, and school leadership. The latter includes the establishment of an overall school climate in which learning can flourish, maintenance of cooperative relationships with all of the school's external constituencies, and the introduction of innovative practices.

Student Characteristics

The shopping mall model of secondary school decision making (Powell, et al., 1985) hypothesizes that programs and activities are established in high schools at least in part to satisfy the demands of students (and their parents). This suggests that otherwise similar schools with different student bodies may have different responses to the STW movement. We hypothesize that the most significant student body characteristics for the purposes of our research are likely to be family SES, educational aspirations, race, labor force participation rate, and ethnicity.

Community Characteristics

Public schools are substantially creatures of the community in which they reside. Local taxpayers provide significant financial support, and local residents typically elect representatives to serve on the board which governs the school system. Given these

important connections, it is natural to suppose that the community has an influence on school decision making which is separate and distinct from that of students or school employees. Other things equal, we hypothesize that the income, educational level, occupation, age, and family structure of a community's citizens will to some degree affect, primarily through the political process, the propensity of its schools to offer STW programming.

Regional Characteristics

Finally, it is reasonable to suppose that a school's involvement is STW activities might be shaped in part by political and economic forces that are external to the its local community. Regional economic conditions as measured by unemployment rates, wage levels, and industrial structure might exert a significant influence. In addition, there have been many STW initiatives at the state level, most of which have been implemented through the actions of individual districts and schools. Our a priori expectation is that schools in states that have made a substantial commitment to the STW movement are more likely to have significant such programming than otherwise identical schools in states with a lesser commitment.

Preliminary Results

Research thus far has focused on estimating a "breadth" model in which the dependent variable is a simple count of STW activities in a school. Our results from this estimation should be regarded as highly preliminary because we have not fully explored all possible independent variables from the NELS:88 dataset and have also not yet incorporated possible independent variables from other datasets, notably the National Center for Educational Statistics' Common Core of Data.

With this caveat, several preliminary conclusions may be drawn from our early results. First, school size is positively related to STW programming. This is consistent with the findings of other studies that focus on the relationship between school size and curriculum breadth (Monk and Haller, 1993). Second, school leadership seems quite important. In particular, innovative schools with an orderly, learning-oriented climate have significantly broader STW programs than schools that lack these attributes. Third, the college orientation and social class composition of the student body appear to exert some independent influence on STW decision making. Fourth, schools that are substantially involved in vocational education are somewhat more likely to offer a range of STW activities than those that are less involved. Fifth, forces originating from outside the school may affect STW programming. A relationship was found between region of the country and STW involvement, although additional analyses are needed to provide an interpretation. Overall, however, it appears that STW programming in a school is occurring largely as a result of decisions made in response to internal rather than external imperatives.

Continuing Research

In our ongoing research the work described above is going to be extended in two ways. First, we will introduce more independent variables into the analysis in order to deal more completely with the potential complexity of the STW programming decision. Many of these variables will come from the National Center for Educational Statistics' Common Core of Data. These will enable us to provide a more accurate representation of community and regional influences on school decision making. This database will also allow us to expand our analysis to the area of financial resources available to schools.

Second, we will draw some policy implications from our findings for decision makers at the federal, state, and local level. Important to this effort is our further examination of school size and the academic seriousness and innovation index measures that we found initially to be highly related to the STW programming. Through this examination, we shall be able to link our findings in this research to studies of school improvement in other areas of curriculum and instruction (e.g., Knapp, 1997).

We look forward to presenting the results of this research at the 2000 AERA convention.

References

Charner, Ivan; Fraser, Bryna; Hubbard, Susan; Rogers, Anne; and Horne, Richard. "Reforms of the School-to-Work Transition: Findings, Implications, and Challenges," *Phi Delta Kappan*, Vol. 77, No. 1, September 1995, pp. 40, 58-60.

Chichura, Elaine. "The Role of the Board of Education in the Process of Resource Allocation for Public Schools," Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA, March 1989.

Commission on the Skills of the American Workforce. *America's Choice: High Skills or Low Wages* (Washington, DC: National Center on Education and the Economy, 1990).
Ferris, James. "School-Based Decision Making: A Principal-Agent Approach," *Educational Evaluation and Policy Analysis*, Vol. 14, No. 4, pp. 333-346.

Haggstrom, Gus; Blaschke, Thomas; and Shavelson, Richard. *After High School, Then What? A Look at the Postsecondary Sorting-Out Process for American Youth* (Santa Monica, CA: RAND National Defense Research Institute, 1991).

Hartman, William. "Understanding Resource Allocation in High Schools," Technical Report No. 143, Center for Educational Policy and Management, University of Oregon, Eugene, OR, November 1988.

Hershey, Alan; Hudis, Paula; Silverberg, Marsha; and Haimson, Joshua. *Partners in Progress: Early Steps in Creating School-to-Work Systems* (Princeton, NJ: Mathematica Policy Research, Inc., 1997).

Ingersoll, Richard M. "Teachers' Decision-making Power and School Conflict," *Sociology of Education*, 1996, Vol. 69, pp. 159-176.

Jones, Thomas. *Introduction to School Finance Techniques and Social Policy* (New York, NY: Macmillan Publishing Company, 1985)

Knapp, Michael S. "Between Systemic Reforms and the Mathematics and Science Classroom: The Dynamics of Innovation, Implementation, and Professional Learning," *Review of Educational Research*, 1997, Vol. 67, No. 2, pp. 227-266.

Lerman, Robert and Pouncy, Hillard. "The Compelling Case for Youth Apprenticeships," *The Public Interest*, No. 101, Fall 1990, pp. 62-77.

Monk, David. "Toward A Multilevel Perspective on the Allocation of Educational Resources," *Review of Educational Research*, Vol. 51, No. 2, Summer 1981, pp. 215-236.

Monk, David. "Secondary School Size and Curriculum Comprehensiveness," *Economics of Education Review*, Vol. 6, No. 2, XXXX 1987, pp. 137-150.

Monk, David and Haller, Emil. "Predictors of High School Academic Course Offerings: The Role of School Size," *American Educational Research Journal*, Vol. 30, No.1, Spring 1993, pp. 3-21.

Nakib, Yassir. "An Approach to the Analysis of School-Level Resource and Use: The Case of Florida," Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY, April 1996.

National Center for Educational Statistics. *Education and the Economy: An Indicators Report* (Washington, DC: U.S. Department of Education, 1997).

National Commission on Excellence in Education. *A Nation at Risk: The Imperative for Educational Reform* (Washington, DC: U.S. Government Printing Office, 1983).

Parnell, Dale. *The Neglected Majority* (Washington, DC: Community College Press, 1985)

Powell, Arthur; Farrar, Eleanor; and Cohen, David. *The Shopping Mall High School* (Boston, MA: Houghton Mifflin Company, 1985).

Raizen, Senta. *Reforming Education for Work: A Cognitive Science Perspective* (Berkeley, CA: National Center for Research in Vocational Education, University of California, 1989).

Tetreault, Donald; Pincus, Lawrence; and Murphy, John. "Educational Resource Allocation Patterns in California: Coping with Equal Amounts of Less," Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY, April 1996.

William T. Grant Foundation Commission on Work, Family, and Citizenship. *The Forgotten Half: Pathways to Success for America's Youth and Young Families* (Washington, DC: William T. Grant Foundation, 1988).

EXTERNALLY-DRIVEN INNOVATIONS IN THE VOCATIONAL EDUCATION AND TRAINING SECTOR: ISSUES ASSOCIATED WITH STAFF DEVELOPMENT

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Introduction

Competency Based Training (CBT) has had a major impact on the evolution of Vocational Education and Training (VET) (Waymark, 1997). Decisions concerning methods of delivery, teaching and learning, assessment, and transferability of qualifications have been strongly influenced by a competency-based training environment (Lowrie, Smith & Hill, 1999). In Australia, CBT has been legislated to a greater extent than most other countries. Policy directives at the national/federal level in the early 1990's have ensured that competency-based training would become the preferred method of delivery of VET in Australia, with substantial implementation occurring by 1993. Today, CBT is synonymous with training in Australia.

The VET sector accommodates a diverse range of individuals in many fields of study across thousands of Technical and Further Education (TAFE) and non-TAFE providers. As a result, CBT means different things to different people. In general terms, however, CBT can be explained as having a focus on the outcome of training (ANTA, 1997). These outcomes are measured against specific standards and not against other students and the standards are directly related to industry.

It is reasonable to assume that competency-based approaches have affected individuals in different ways considering the diverse nature of the sector. It could be argued that the greatest effects on people involved with VET have been upon instructors[1], since they have had to change their everyday practice to accommodate CBT (Cleminson & Bradford, 1996; Smith & Lowrie 1998). Moreover, they hold the ultimate responsibility for ensuring that CBT makes a difference to VET outcomes.

Theoretical Framework

It is comparatively easy, and common, to dismiss teachers' discomfort in keeping abreast with new innovations as an unwillingness to adapt to change. Such responses have been analyzed with reference to various models of organizational and individual change (e.g. Klein & Sorra, 1996; Stenhouse, 1975; Hord & Huling-Austin, 1986). Instructors' discomfort has often been associated with other radical changes in working conditions, such as other features of training reform like the opening of the training market, and re-organizations of State and Territory TAFE systems.

[1] For the purposes of this study the term instructor is used for both teachers and trainers in the VET sector.

However, instead of viewing teachers' problems with adopting CBT as resulting merely from inflexibility and fear of change, it is possible to discern more concrete reasons why the change to CBT proved difficult for teachers. In some cases the practices they were asked to carry out were in fact educationally unsound. This was often a result of early interpretations of CBT that had not yet utilized holistic assessment practices. For example, Robinson (1993) documents the case of a TAFE cookery teacher who was required to assess students who were making a béchamel sauce by means of a checklist, instead of assessing the final product and the whole process. When faced with such demands, teachers' confidence was undermined and some teachers withdrew from certain aspects of CBT (Smith *et al* 1997).

Lack of preparation and staff development was another common cause of teachers' difficulty with CBT. Smith and Nangle (1995) and Choy (1996), amongst others, have documented evidence of teachers having received inadequate training in how to use CBT. CBT staff development has seemed to concentrate upon 'big picture' information on training reform rather than upon teaching strategies. There have been some successful staff development strategies such as the *CBT in Action* scheme (Kelleher & Murray, 1996), based on action learning principles, but these initiatives have reached only a small proportion of VET practitioners. In particular, the study found that selection of CBT features for a course depended upon industry area, AQF level and type of provider. In addition, within TAFE systems, different States and Territories had different policies with relation to some matters such as the use of non-graded assessment. Beyond these differences, however, the way teachers used CBT varied even where the 'mix' of CBT features was the same. Teachers' attitudes towards CBT, their sensitivity to the needs of their students and the resources available all affected the way in which CBT was used.

The Purpose

In this study, the impact CBT has had on the role and responsibilities of instructors across the VET sector was examined. The following three research questions were investigated in the study:

- How have instructors adapted their practice to accommodate competency-based training, and how have new practices evolved?
- What staff development issues are present in CBT?
- Can a staff development model developed that applies to individuals in a situation requiring them to respond to an externally-driven innovation in the VET sector?

Methods

Case study analyses (Yinn, 1994) were used to evaluate the extent to which competency-based approaches had influenced, or changed, the role of instructors across the sector. The sites were predominantly from the non-TAFE sector and included a range of different providers in different states and territories. In most instances, information for each case study was collected over a two-day period—with the researcher interviewing several instructors at each site in both individual and group sessions. The views and perceptions of senior management and educational staff were also sought, and were taken

into consideration when analyzing information from each site. The sites for the case studies were selected from different locations (states), settings (city, rural and provincial), size of organization, and type of provider in order to ensure diversity. In this way, the researchers were able to examine the extent to which the dynamics or culture of an organization influenced the type of staff development experiences made available to individuals and organizations. The following section provides a brief description of the six sites analyzed in the study.

Willson Training Centre

Willson Training Centre (Willson Training Centre) is a private provider of training programs in Hobart, Tasmania. It was established in 1981 under the auspices of Centrecare, the social welfare arm of the Catholic Church, to provide training for young unemployed people. In mid-1998 CBT was in operation in all facets of training. Around 100 trainees were undertaking courses in commercial cookery, food and beverage services, commercial cleaning, retail operations, and office and computer skills. The CBT approach was strongly featured in course brochures and Willson Training Centre advertising material. It was clearly a significant feature of the Willson Training Centre approach to training and when meshed with other features such as self-paced learning, individualized treatment of trainees and negotiated arrangements with employers they have produced a unique and seemingly very effective training format.

Mission Employment

This study was undertaken at a community-training provider in a large rural city in New South Wales. Most courses were designed for people seeking employment. There was 22 staff members employed at the centre, however funding cuts to some of the courses were to result in the reduction of six positions. CBT has been an integral part of teaching and learning approaches at this site for over six years. Mission Employment ran three courses in CBT at this site including a corporate, wielding and retail course. Although there was quite a diverse range of opinions about what constituted CBT practice there was a general consensus that CBT approaches had improved the quality of teaching and learning experiences at the site. Most instructors believed that CBT had made them more reflective teachers and kept them abreast of industry standards. It was evident that the instructors' previous background and experience were influential in coming to terms with CBT practices. Furthermore, the adoption of CBT practices was linked to personal views about the teaching-learning process. Generally, this case study showed that individuals' beliefs about the teaching-learning process were central to both (1) concerns about CBT and (2) ways of implementing CBT practices.

Canberra Institute of Technology

The case study was carried out within the Faculty of Management and Business and concentrated on two teaching sections: management and office administration (BATS). Canberra Institute of Technology has a well-developed and resourced staff development function; however it was found that many individual teachers did not access the staff development activities, for a variety of reasons. Teachers' views about CBT were affected by their prior employment experiences, the ways in which they first learned

about CBT, their career stage, and by the culture of their teaching section. Many teachers were still unhappy with CBT, particularly with modularization. They did not feel that staff development could solve their problems. Although some staff had found ways of working more comfortably with CBT, knowledge about effective ways of using CBT did not appear always to be shared within or across teaching sections. Perceptions of future staff development needs varied with level in the organization: teachers were more inclined to mention technology as a major training need, while managers were more inclined to mention factors connected with competition and the training market.

Site College

Site College is located in Alice Springs and is the only post-compulsory education institution in Central Australia. It was a fully autonomous trisector institution responsible directly to the Minister for Education and provides courses at the senior secondary level, technical and further education and higher education. The teaching staff at Site was relatively stable with many staff having spent a considerable time in the institution. Most staff had been using CBT for more than four years and had time to consider its strengths and weaknesses. The teachers differed considerably in their conceptions of CBT. These differences arise, in part, from the way in which CBT has been developed and implemented in the various fields of study.

Staff at the college developed their understanding of CBT in a variety of ways but their practice was mainly developed on the job and involved discussions with other staff in their teaching area. CBT was perceived in a positive light by most staff. Teachers identified that for them CBT had progressed through initial stages of uncertainty and loss of satisfaction on to a period of active experimentation and was now at a stage which mainly involved fine-tuning. Almost all of the staff interviewed agreed that if they had their time over again they would implement CBT. However, the form of CBT to be introduced would now be different from the one they first used. It was found that managers did not always consider CBT-related issues from the same perspective as practitioners. Interestingly, both groups tended to believe that staff development was critical in such isolated situations and that it could significantly improve the provision of VET. A key feature of this institution was open communication that allowed problems to be addressed in a timely and professional manner.

Townsville schools

This case study of three high schools focused on the outcomes of the introduction of competency based training have had on the roles of senior secondary school teachers of vocational education. The analysis was carried out in Townsville, a large provincial city in northern Queensland. The three schools have had a vocational education focus for between four and seven years. The High Schools involved were Thuringowa High School, Kirwin High School and William Ross High School. In these three schools one experienced teacher responsible for the coordination and teaching of vocational education subjects and either the Principal or Deputy Principal of the school participated in the discussions.

CBT had made its presence felt in these three secondary schools with the introduction of vocational education subjects in the senior secondary years. However, the extent to which the curriculum, pedagogical and assessment implications of CBT are endemic to the school based delivery of these subjects is a matter for debate. CBT in a school environment appears to be very different from CBT in a VET environment such as TAFE. CBT is theoretically expected to be the underpinning of the Vocational Education subjects that are on offer but the reality of the discussions did not reflect this. The lack of consistent contact between TAFE and the school sector restricts the exchange of ideas about CBT and teachers have relied on Board run courses and workshops to inform their professional practice. Vocational education in schools is discussed as being both a means and an end: a means to keep students at school and an end in the award of credentials, which articulate with further education and training. These subjects have to sit beside the more traditional subject offerings within a framework that is circumscribed by history and past practice. Timetables, class arrangements, teaching loads, classroom facilities are all still tied back to a senior secondary system designed primarily for those young people going to University. Teachers face immense challenges in trying to rationalize and work within two paradigms in coming to terms with CBT approaches.

All Seasons

All Seasons is a nationally-based hotel management group with establishments in all states and territories (with the exception of Tasmania). The organization presently has 27 hotels with over 2000 people are employed in the organization. All staff was encouraged to gain a hospitality-based qualification. The organization is a nationally accredited training provider.

Courses undertaken through the organization include: Certificate I in Front Office/Reception; Certificate in Food and Beverage; and Traineeship in Hospitality. All operations staff at the hotels, including front line personnel, supervisors, and some senior managers, undertake training courses. The training section of the organization includes a National Human Resource Manager, six regional Human Resource (HR) Managers and regional instructors. All HR Managers have, as a minimum, a Category II training qualification. In addition, these individuals have had at least three years supervisory or management experience in the organization. The Training Manager commented that these people had a substantial amount of supervisory experience and could be considered as "allrounders." The CBT philosophy was very positive in the organization. The strong operations focus of the hospitality industry seems to be aligned with such training approaches. RPL was used extensively across all forms of training and as was considered, by those interviewed, to be paramount to a competency-based training framework. Despite the fact that the training programs were spread across the entire country it seemed that a consistent approach to CBT was being implemented throughout all courses.

Results

Personal views of staff concerning issues that were associates with CBT differed greatly. In some cases the differences between individuals within organizations were relatively minor—as was the case in All Seasons Hotel, Willson Training Centre and Mission Employment. At these three sites there was a high degree of shared understanding and acceptance of CBT. In the other organizations, including Site College, Townsville

Schools and Canberra Institute of Technology, the differences in understanding and acceptance of CBT are more varied. These differences are associated with age, industry area, prior experience, educational philosophy, level of course, the way CBT was introduced and the level and nature of support for staff development. In general, instructors in skills oriented areas with close industry ties were favorably disposed towards CBT. A significant number of practitioners saw the challenge and additional work involved in introducing CBT as an unnecessary imposition. Some instructors' felt that they were doing a good job and that little of what they heard about CBT initially persuaded them to think otherwise. For these people the issue was the way in which change was introduced and managed rather than CBT *per se*.

CBT issues and concerns

Generally, instructors viewed CBT in a positive light. This was particularly evident in the relatively small non-TAFE providers. In contrast, the instructors at Site College and Canberra Institute of Technology identified a number of issues and concerns with which they had to grapple with in the initial stages of implementation. These issues and concerns were associated with assessment, teaching/learning situations, the CBT philosophy and documentation or content development. The following table, Table 1, provides a list of some of the dialogue captured at these sites.

Table 1. Main issues associated with assessment, teaching/learning situations, CBT philosophy, and documentation/content.

Assessment	• how do you know they are really competent? • how can you make assessment transparent without giving the answers? • how do you cater for better students if the assessment is ungraded? • how do you get appropriate criteria for graded assessment? • how can you assess whether a student is flexible or adaptable? • should trainees who are not competent at the completion of the nominal duration of a module fail?
Teaching/ Learning situations	• getting students to take responsibility for managing their own learning • resisting student pressure to revert to the more comfortable role of upfront teacher • getting used to having students at different levels at the same time • how to reward good students • balancing skills and the more general competencies required in the workplace • helping students who were uncomfortable with the learning approach used

CBT philosophy	• how can you make sure that incompetent students can't just pass by having lots of goes? • key competencies and what to do with them • weighing up evidence and knowing that it was adequate to indicate competence • working within the organizational constraints such as block release • getting used to a new role • implementing RPL
Documentation/ Content	• developing learning guides/workbooks • integrating early modules into a meaningful introduction • reducing overlap between modules

A consistent theme across many of the sites was the lack of time instructors had to adopt CBT practices in the initial stages of implementation. This can be explained, in part, by the need for teachers to spend more time planning a range of teaching and leaning experiences. For some instructors, this phase passed as teachers gained new expertise and regained control of the changed training environment. This period was followed by a stage of fine-tuning in many of the full-time instructors. As expected, part-time instructors found it more difficult to move through this "fine-tuning" stage. Moreover, it needs to be recognized that some teachers were still opposed to the ideas of CBT and felt strongly about the burden a CBT approach had placed on the teaching-learning situation.

Almost all staff interviewed in the case studies acknowledged the importance of coming to grips with the concept of CBT and the changed nature of assessment for a teacher or trainer new to CBT. However, members of staff varied in their understanding and practice of CBT. There was some obvious confusion between the concept of CBT and the methods by which CBT might be delivered. However, most seemed to agree that CBT had changed the way in which they taught and assessed. Staff at Townsville Schools highlighted the difficulty they had in coming to understand the notion of competency, having to assess demonstrated skills and not to grade students mainly on their underpinning knowledge which run contrary to current practice in Queensland high schools. Practical issues related to assessment caused concern to many of these teachers. These practical issues included decisions about the number of attempts a trainee may have to complete an assessment task and developing criteria for the number of contexts in which a trainee should perform such tasks in order to be deemed competent. Several instructors commented that such issues (related to assessment) directly impact on decisions made about the teaching/learning process.

Staff at Canberra Institute of Technology, for example, recognized that the structure of CBT modules and syllabus documents had influenced the way in which they organized their teaching. Such changes were sometimes perceived as breaking up a course into smaller less integrated parts—resulting in a loss of course cohesion. At most sites, the greatest challenge for the provider was the way in which flexible delivery was organized and structured. In most instances, a lack of resources (associated with the need to have

resources available for extended periods of time) hindered "true" flexible delivery. Flexible delivery was more frequently associated with self-paced learning within one pathway than with the provision of alternative learning pathways using a variety of media or approaches.

Staff development

When individuals were asked to identify the staff development opportunities they had been engaged in it was evident that responses could be linked to personal and work-related experiences. Thus, some of the responses could be considered as "professional" or personal development activities that may be initiated by the individual. Other responses would be associated with opportunities provided by management. The staff development opportunities made available to individuals were available to a number of staff members, as opposed to individuals being catered for on an one-to-one basis. Instructors' responses could be categorized under the headings presented in Table 2.

Table 2. Staff development opportunities initiated at the sites

personal initiatives	• reflecting upon my own experience • discussion with colleagues • own reading • internet searches
on-the-job training	• developing and revising teaching resources • working in teams • just doing new things • qualifying as a workplace assessor
formal courses	• completing a teaching degree • undertaking postgraduate study
management initiated development	• attending inservice courses • workplace visits
specific industry focus	• period of return to industry • keeping up with developments in industry • having my own business • establish own network of people in my area • industry advisory groups • working across the school-TAFE boundary • other contacts with industry

Interestingly, responses were quite different when individuals were asked to articulate which forms of staff development they preferred to engage in. These responses included:

- seminar-workshops in my area;
- visiting other colleges and talking to people in the same area;
- shadowing an excellent instructor;
- cross-faculty discussions to get different perspectives;
- on-the-job support and mentoring;
- formal study;
- experiment and reflect on the outcomes;
- finding good resources to use;
- on-line conferences; and
- returning to industry.

Decisions about which methods should be used to facilitate staff development usually depended on what was available at the time. The researchers noted that there were many reasons for engaging in staff development activities. These included the need to be comfortable in the new workplace environment, the desire to be professional and the need to keep up to date when on contract. The preferred ways of learning differed from the ways in which staff had developed at the case study sites. The preferred forms of staff development depended on a range of factors including, the particular issue or concern to be addressed, the degree to which the person had come to grips with CBT, preferred learning style and convenience. The staff development needs of instructors and those with a significant administrative role differed. This was particularly noted at Site College and All Seasons Hotel. The researchers were left with an impression of a growing professionalism among staff at most sites.

Future staff development needs

The case studies revealed that most of the individuals' interviewed were aware of their current and future professional development needs. In some cases the needs were relatively narrow and clearly articulated but in other cases the needs were both broad and unclear. As an example, three clear themes emerged from the Mission Employment case study. These involved the:

1. availability of staff training and development courses;
2. increasingly competitive nature of training; and
3. need for cost effective use of time and other resources.

At Site College and Canberra Institute of Technology staff had firm ideas about the content for future staff development programs. Future development needs of staff arise from diverse sources. Sources mentioned by staff at Canberra Institute of Technology, Townsville Schools and Site College included:

- deregulation of the training market;
- workplace assessment;
- catering for a diverse population of learners;
- keeping up with technology;
- improving professional practice;

- reinventing TAFE;
- the need to manage change;
- how to manage one's own professional development;
- developing a more entrepreneurial focus;
- facilitating the development of part-time staff; and
- linking secondary schools into the VET sector.

Even though some of the future development needs of vocational education teachers in the Townsville Schools case study have been included in the above list it should be noted that these teachers faced issues that were quite different from those in the other five case studies.

Conclusion

CBT was practiced in a variety of forms that reflected the industry and organizational context of the staff and students involved. In general terms, instructors from non-TAFE providers had a more positive view of competency-based approaches than that of instructors in the TAFE sector. It could be argued that non-TAFE providers have been able to shape CBT practices to a teaching/learning environment that suited their 'competitive' needs more easily than that of TAFE providers. TAFE teachers, for example, appeared to be experiencing more difficulty introducing competency standards into their courses than instructors in the non-TAFE sector. On the other hand, many non-TAFE providers have indicated that a CBT framework was conducive to the training approaches they used. Instructors who indicated that a CBT framework suited their particular field of study were more likely to have a positive attitude toward CBT in general. An implication of this is that any new innovations in the sector need to address educational and philosophical ideas associated with specific fields of study in order to gain acceptance in the future.

The main contribution to the development of staff in terms of their understanding and practice of CBT involved learning on the job. The way in which many of the instructors learnt about CBT was not always in accord with the way in which they claimed to prefer to learn. Generally, instructors appreciated having a variety of avenues for professional development. Presently, there were not many opportunities for instructors to learn about CBT approaches despite the fact that there was strong evidence to suggest that the introduction of CBT had stimulated new learning in the VET sector. With respect to developing an understanding of CBT, informal *on-the-job experiences* and *collegial support* were considered to be most influential in shaping many instructors' attitudes and understandings. Generally, other factors, including *initial staff development* and *initial teacher preparation*, made a strong contribution to the way in which trainers attempted to implement CBT.

It was evident that staff development needs varied between full and part-time teachers; between types of provider; and between permanent and contract staff. Similarly, staff teaching a few hours as an adjunct to another job present particular staff development challenges. There was not evidence to suggest that many of these factors were being taken into consideration when staff development activities were being planned.

Implications

Two models depicting staff development as it relates to externally-driven innovations in the VET sector are proposed as a result of the data analysis. One model relates to the different levels of responsibility for implementation of the innovation and different phases of implementation and interaction with external stakeholders. The second model describes factors that affect individual instructors' engagement with staff development activities.

The first model has four components or phases including: a) a National and State Bodies level; b) a provider/management level; c) a Department/Faculty level within providers; and d) a practitioner/instructor level. The model examines the way change affects the provider, the teaching area of instructors at the site and the actual teaching-learning approaches of instructors at a classroom level. Moreover, it describes the main components of each level, what actually needs to occur at each phase and a range of outside influences that should be considered at each level. For the model to work effectively it was evident that there should be high levels of negotiation between stakeholders at every level or phase.

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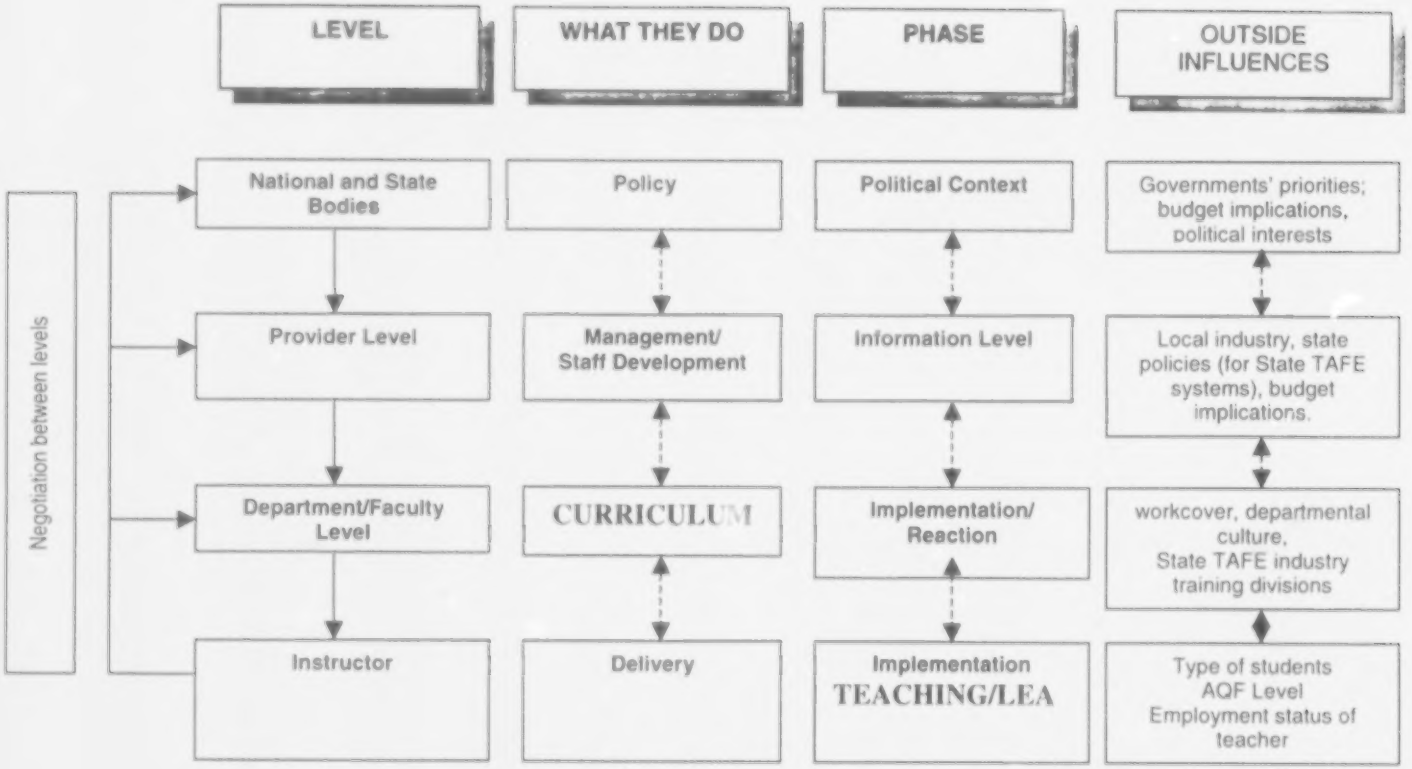

Figure 1. A model for initiation and implementation of policy-driven change in the VET sector

It is likely, however, that no one model can explain the individual's propensity to engage constructively with top-down change (which might include opposing it as well as accepting it) or to engage in staff development activities associated with it. Each individual VET instructor is also part of a peer group that influences his or her attitudes and practices. This could be a departmental culture, which again influences their implementation of CBT and their engagement with staff development activities. It could be a professional culture; for instance the instructors at Mission Employment, primarily from a welfare background, had a particular view of learning, both for their students and for themselves. Another peer group might be a group of instructors from a variety of providers who are undertaking an externally provided course such as a university VET degree. In this context engagement means:

- seeking out opportunities for staff development (either those provided by the institution or others);
- attending activities provided by the institution;
- participating constructively in such activities; or
- implementing lessons learned during the staff development activity

The following diagram (Figure 2) shows the factors affecting the individual VET teacher.

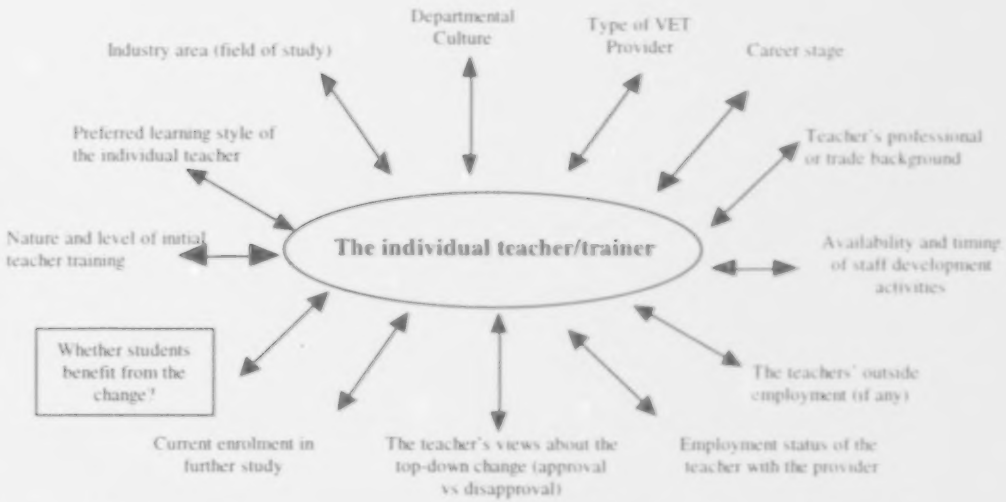
Departmental Culture
Type of VET Provider
Industry area (field of study)
Career stage
Preferred learning style of the individual teacher
Teacher's professional or trade background
Nature and level of initial teacher training
The individual teacher/trainer
Availability and timing of staff development activities
Whether students benefit from the change?
The teachers' outside employment (if any)
Current enrolment in further study
The teacher's views about the top-down change (approval vs disapproval)
Employment status of the teacher with the provider

Figure 2: Factors affecting engagement of individual VET teacher with staff development associated with top-down change

It is not possible to provide a general indication of the relative amount of importance each of the factors has on engagement in staff development. For each teacher, each factor will be weighted differently. For example, for a woman with young children "availability and timing of staff development activities" will be all important, as it will for people who combine several part-time jobs.

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If such a variety exists in individuals' engagement with staff development, it is clear that a one-size fit all approach is unlikely to be effective. This applies equally to traditional workshops, including inservice courses, and to non-traditional staff development activities such as those associated with work-based learning. The two models presented in this implications section consider the role of the instructor in the VET sector and are generated from the VET context in Australia.

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References

Australian National Training Authority (ANTA). (1997). *Research reports into professional development.* Brisbane: ANTA.

Choy, S. (1996). *A survey to assess students' current level of knowledge about competency-based training and recognition of prior learning and additional information they need.* Unpublished paper, Queensland Vocational Education and Training Directorate.

Cleminson, A., & Bradford, S. (1996). Professional education: The relationship between "academic" and experiential learning. *Journal of Vocation Education and Training, 48*(3), 249-259.

Hord, S. M. & Huling-Austin, L. (1986) Effective curriculum implementation: some promising new insights. *The Elementary School Journal, 87* (1), 97-115.

Kelleher, J. & Murray, J. (1996, July). Longitudinal evaluation of the 'CBT in Action' scheme - Findings. *Fifth Annual Vocational Education and Training Research Conference,* Launceston.

Klein, K.J. and Sorra, J.S. (1996). The Challenge of Innovation Implementation. *Academy of Management Review,* (4), 1055-80.

Kruger, R. A. (1993). Quality control in focus group studies. In D. L. Morgan (Ed.), *Successful focus groups* (pp. 35-50). Newbery Park: Sage.

Lowrie, T., Smith, E., & Hill, D. (1999). *Competency-based training: A staff development perspective.* Adelaide: National Centre for Vocational Education Research.

Robinson, P. (1993). *Teachers facing change: A small-scale study of teachers working with competency-based training.* Adelaide: NCVER.

Smith, E (1997). How competency-based training has changed teaching and learning. *Training Agenda,* 5:4.

Smith, E., & Lowrie, T. (1998). Staff development in the VET sector: Case studies of two providers. Australian Journal of Teacher Education, 23 (2), 5-19.

Smith, E. & Nangle, R. (1995). Workplace communication: TAFE teachers' experiences of implementing a national module. *Australian TAFE Teacher,* March, 53-54.

Stenhouse, L. (1975). *An introduction to research and development.* London: Unibooks.

Waymark, M. (1997). The impact of national vocational qualification on the secretarial curriculum. *Journal of Vocation Education and Training, 49*(1), 107-120.

Yin, R. K. (1994). *Case study research: Design and method (2nd ed.).* Newbury Park, CA: Sage.

DEVELOPING TECHNICAL EDUCATION CURRICULA IN AUSTRALIA AND THE UNITED STATES: A CROSS-NATIONAL COMPARISON

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Overview and Purpose

During the early 1900's, technical education curriculum development was a local activity targeted at local students who were eventually employed by businesses and industries in the local community. On the surface, these curricula appeared to meet local employers' needs; however, content and standards "were quite lax and even nonexistent. Quality was at best a local matter and, more often than not, did not extend beyond the concern of the individual instructor (Finch & Crunkilton, 1999, p 6)." Much change has occurred during the past 100 years. Curriculum development has evolved into a very complex process that can engage interdisciplinary teams of professionals in long-term curriculum design activities. In most industrialized nations, technical education curriculum development has likewise tended to evolve from a rather simple, localized process to one that is very sophisticated and may be strongly grounded in state and national guidelines or policy. Nations have also tended to organize their vocational and technical education systems in different ways based on their unique histories, cultures, economies, populations, governance, policies, and related areas (Finch, et al., 1997).

Unfortunately, little is known about differences that exist across nations in the ways technical education curricula are developed and delivered. Studies of education in individual countries abound (for example, see recent issues of the *Comparative Education Review*), but few have given more than passing notice to technical education and even fewer have examined technical education curricula form a cross-national perspective. Focusing this area, particularly in the context of cross-national comparisons, has the potential to provide insight into not only what differences exist in technical education curriculum development but the more fundamental reasons behind their existence. As LeTendre (1999, 42) noted, these types of studies "offer the potential for theoretical insight on issues central to classroom processes and national policies."

Thus, the overall purpose of this study was to compare and contrast technical education curriculum development and delivery in two different countries: Australia and the United States. The study focus was further delimited to comparisons between New South Wales in Australia and Virginia in the United States. Information about curriculum development and delivery in the two states was gathered using case study and content analysis methodologies. While the specific study area consisted of technical education curriculum development processes and delivery, related areas including national and state policy and governance, state configuration and population mix, clients served and services provided, and workplace qualifications were also examined to determine reasons behind curriculum development and delivery decisions.

Framework

This study builds upon the rich history of comparative qualitative research. However, it expands on the traditional view of comparative education in several ways. First, the study focus on technical education varies from typical cross-national education comparisons that target areas such as science, mathematics, and language. Second, its focus on technical education curriculum offers an expanded view of educational processes and outcomes. Very seldom is technical education curriculum development examined in even one country or a subset of a country. And finally, the close ties that technical education maintains with the workplace add a significant dimension to this study. Whereas, typical comparative education research focuses primarily on the education sector, this study examined the technical education sector and its curricula while giving consideration to the context of the workplace sector.

Techniques and Information Sources

The case study method and content analysis were the primary techniques used to gather and examine information. Interviews were conducted as needed with selected persons responsible for the development and delivery of technical curricula in both Virginia and New South Wales. This included individuals at both the state and individual institution level. Persons were interviewed primarily to clarify written statements of curriculum policy and practice. A semi-structured long interview was used together with a modified version of the Curriculum Quality Indicators (CQI) form (Finch, 1999). The CQI enabled interviewees to first compare their curricula with indicators on the CQI and then discuss each difference and similarity and provide examples. Information was gathered from web sites and printed materials describing how curricula were developed and delivered. Both written, web site, and interview information was subjected to content analysis which in turn served as a base for preparation of the two state case studies.

Technical and Further Education in New South Wales

The Vocational Education sector in Australia operates under a single National Qualifications Framework segmented into individual industry training packages. The training packages delineate specified competencies using a progressive set of qualifications levels ranging from one to six. Training is delivered in a competitive environment by Registered Training Organizations (RTO's) which include State run Technical And Further Education (TAFE) colleges and state registered private providers.

New South Wales (NSW) has a population of about 5 million, with approximately 65% of the total living in the urban sprawl along the Eastern seaboard, centered around Sydney, the state's capital city. The TAFE sector in NSW operates under the Ministry of Education, a central executive and policy units, with delivery of education and training services through the OTEN (Distance Education) Institute and 11 multi-campus TAFE institutes. The institutes are located in geographic regions and provide educational services to about 430,000 students each year. About 60% of enrollments are in the 6

Institutes situated in and around Sydney, and the remaining in regional and rural areas. About 90% of students attend part-time or study externally, combining work and study.

TAFE offers a wide range of courses providing training at the operative, trade, and paraprofessional levels as well as general education and literacy programs at the certificate, advanced certificate, associate diploma, and diploma levels. Also offered are industry focused short courses. The client base of TAFE is very broad, with a higher proportion of students from lower socioeconomic backgrounds than the University sector. In 1997 non-English speaking students constituted 20% of TAFE students, Aboriginal student enrollment of 3% and 5% enrollment by students with disabilities reflect the strong commitment to equity that exists in the TAFE mission (TAFE, 1997).

TAFE in NSW has a long history of developing curriculum designed around modules. Different industry programs have been divided into convenient segments and developed into standardized modules containing competencies and teaching materials for delivery across campuses state wide. The intervention by the Commonwealth through development of training packages - packages which define industry competencies but not the delivery style, mode, teaching materials or context - has required significant review of TAFE curriculum materials. Mapping of existing TAFE modules with National Training Packages has identified gaps and revisions, necessitating significant curriculum remodeling. At the same time flexible delivery (in time, place, and mode) has become an important policy shift in NSW TAFE. This has been TAFE's response to meeting industry and student needs in a competitive environment. The double pressure on curriculum content and its delivery has resulted in considerable resource pressure among curriculum development units within TAFE.

Occupational-Technical Education in Virginia

The United States educational system actually consists of over fifty systems, one for each state and territory. Since states' rights are a fundamental part of the US constitution, states and localities have a great deal of state and local autonomy as far as education is concerned. Much of the federal legislation that applies to higher education focuses on either setting requirements (e.g., equal opportunity, access for the physically challenged) or stimulating change (e.g. making money available to implement educational reform). Federal legislation related to higher technical education has provided a very small part of the funding needed to operate occupational-technical programs, so funding higher technical education is primarily a individual state and local responsibility.

Virginia has a population of about six million persons with the greatest number located in the northern part of the state adjacent to the District of Columbia and along the eastern corridor running from Alexandria to Norfolk. A very sizable population is located in the greater Richmond (capital city) area; and the far south and southwest with its rural, agricultural and light industry focus is much less populated. The Virginia Community College System (VCCS) was established in 1965 to serve this population mix. With headquarters in Richmond, VCCS has administrative responsibility for operating 23 community colleges located on 38 campuses across Virginia. During 1997-1998, VCCS served the equivalent of 74,295 full-time students, representing 215,709 individual students who enrolled in credit courses. an additional 70,000 students were enrolled in

non-credit courses. About 29% of students enrolled in VCCS colleges are minorities. Community colleges in Virginia offer more than 200 different programs in occupational-technical areas, liberal arts and sciences, general education, and continuing adult education and industrial training. About 33% of the students enroll in transfer programs, 30% in occupational-technical programs, and 3% are unclassified (Virginia Community College System, 1999)

Since neither the federal government nor Virginia has created specific workplace qualifications or employer standards in very many areas beyond health occupations and aviation maintenance, VCCS and it's colleges have had very little involvement with this area (Daughtry & Finch, 1996). VCCS has thus established policies governing curriculum development and delivery within which the 23 community colleges must operate. The establishment of programs and courses follow specific procedures. For example, there must be documentation of a clear need both in terms of employers and potential students. Assessment of existing offerings are conducted on a regular basis to insure that they meet strict standards of both quantity and quality. If such a move is warranted, VCCS may choose to shift a program and/or instructors from one community college to another. (e.g., decreased need in one community college district and increased need in another). Curricula, which are operationally called programs, include a number of formal courses that must be completed in order to receive a two-year Associate of Applied Science degree or a graduation certificate. The VCCS curriculum model is traditional, much like that found in universities. Although there is concern expressed about "internationalizing" the occupational-technical curricula and community colleges have been encouraged to move in this direction, only modest change has occurred. In recent years, VCCS has become very heavily involved in distance learning, primarily focusing on two-way teleconfencing to remote sites. Other emerging areas are customized training and technology transfer. VCCS has a major commitment to have a positive impact on economic development across Virginia. Community colleges contribute to this commitment by providing employers with customized, contract training in technological areas. Also provjded to employers on a contract basis are technology transfer services that aid companies in gaining competitive advantages over their competitors.

Cross-National Comparisons and Implications

Comparing and contrasting TAFE in New South Wales with VCCS in Virginia resulted in several meaningful observations. They focus on system context and structure, flexibility and autonomy in curriculum development, curriculum content, and curriculum delivery.

Both TAFE and VCCS are multi-purpose systems that serve a wide range of students located in all parts their respective states. Their organizational structures are similar in many respects. Both utilize a modified top-down structure that provides each institution (TAFE college and community college) with a reasonable amount of structure and autonomy to carry out its particular curriculum and instructional mission. The states both serve diverse populations located in large city, suburban, and rural areas. However, New South Wales is quite a bit larger than Virginia and thus must meet the needs of persons who live in very remote locations.

The link TAFE has with Australia's National Qualifications Framework largely drives what curricula TAFE colleges offer and how they are offered. National qualifications have the potential to limit flexibility and responsiveness to clients' needs. In contrast, the autonomy given to VCCS by the federal government offers the system many opportunities for creativity, flexibility, and responsiveness in its curriculum development. However, having too much autonomy can be seen as a deterrent to change, especially if community college administrators do not view change as being important to the growth and continued success of VCCS.

In both systems, the strategies used to identify curriculum content tend to be much more present- than future-focused. This means curriculum content may better prepare students for the current workplace at the expense of preparing them for the future workplace. As a subset of a very large island country, the NSW TAFE system has a long tradition of commitment to internationalizing the curriculum. This commitment may be seen in the large number of active international linkages that TAFE colleges have with similar types of institutions in other countries. Even though community colleges across Virginia have be encouraged for some time to conduct internationalization projects and integrate international concepts and ideas into courses that are taught, progress in this area has not progressed to the extent that it has in New South Wales.

Both TAFE and VCCS deliver their curricula through traditional (i.e., face to face) and distance learning modes. Difficulties with providing education to persons in remote areas has stimulated and maintained a long term national commitment to distance learning. Thus, TAFEs are equipped to deliver courses via a variety of distance learning modes. VCCS has encouraged its colleges to provide distance learning using two-way teleconferencing but work is well underway to offer a number of on-line courses.

In conclusion, both TAFE and VCCS have somewhat similar missions. However, each state system approaches its mission through a different organizational structure and context. The states face some common problems and other problems that are unique to their systems. Hopefully, the results of this comparison will be of benefit to postsecondary technical education systems in other countries and states. It is sometimes necessary to take a close look at how education operates in other countries to really understand how education may be improved in one's own country.

References

Daughtry, L., & Finch, C. R. (1996). *Impact of industry-based skill standards on the Virginia Community College System*. Richmond: Virginia Community College System.

Finch, C. R. (1999). Designing VET curricula for the world class workplace: Case studies of success. Paper presented at the IVETA International Conference, Sydney, Australia.

Finch, C. R., & Crunkilton, J. R. (1999). *Curriculum development in vocational and technical education, 5th Edition*. Needham Heights, MA: Allyn & Bacon.

LeTendre, G. K. (1999). The problem of Japan: Qualitative studies and international educational comparisons. *Educational Researcher, 28*(2), 26-37.

Virginia Community College System. (1999). *VCCS statistical profile*. Richmond, VA: Author. Available: http://www.so.cc.va.us/about/snapshot.htm

TAFE (1997).*TAFE New South Wales annual report*. Sydney: New South Wales Technical and Further Education Commission.

Yin, R. K. (1994). *Case study research: Design and method, 2nd Edition*. Newbury Park, CA: Sage.